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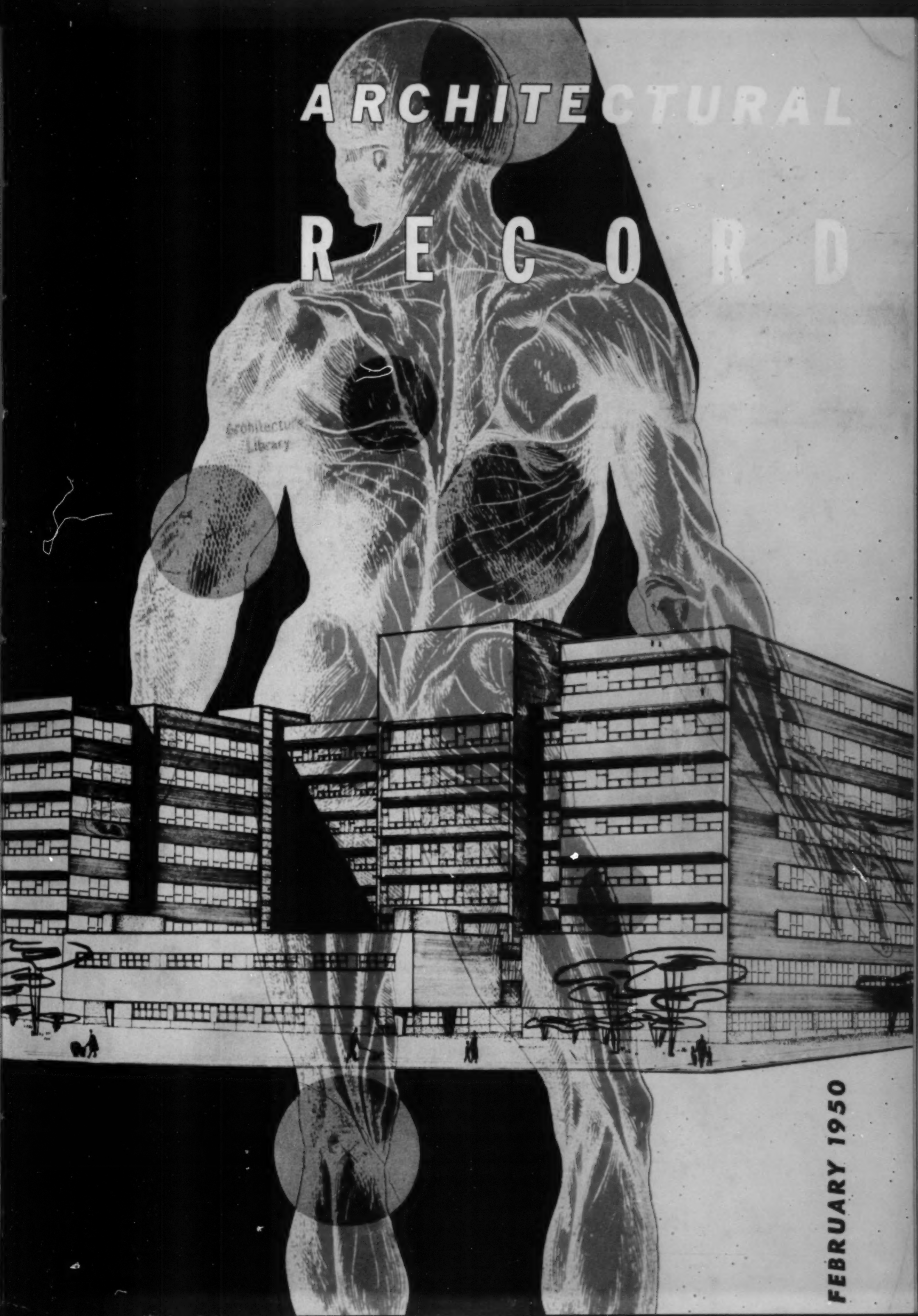

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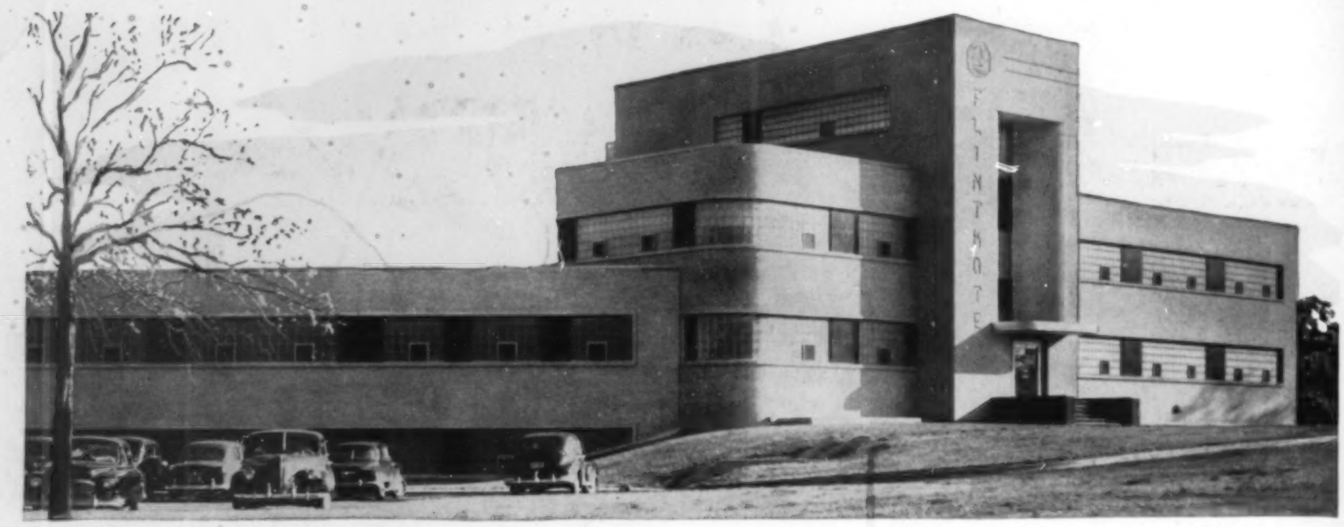

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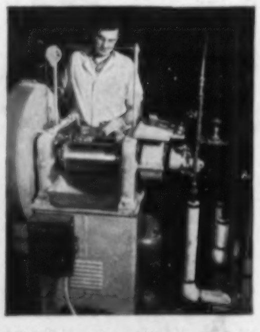

This small mill is used to break down various rubber materials to the right consistency for use in new products or processes. Full size operation follows in the production of versatile fluid rubber and rubber-like adhesives, coatings and the like.

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ARCHITECTURAL RECORD

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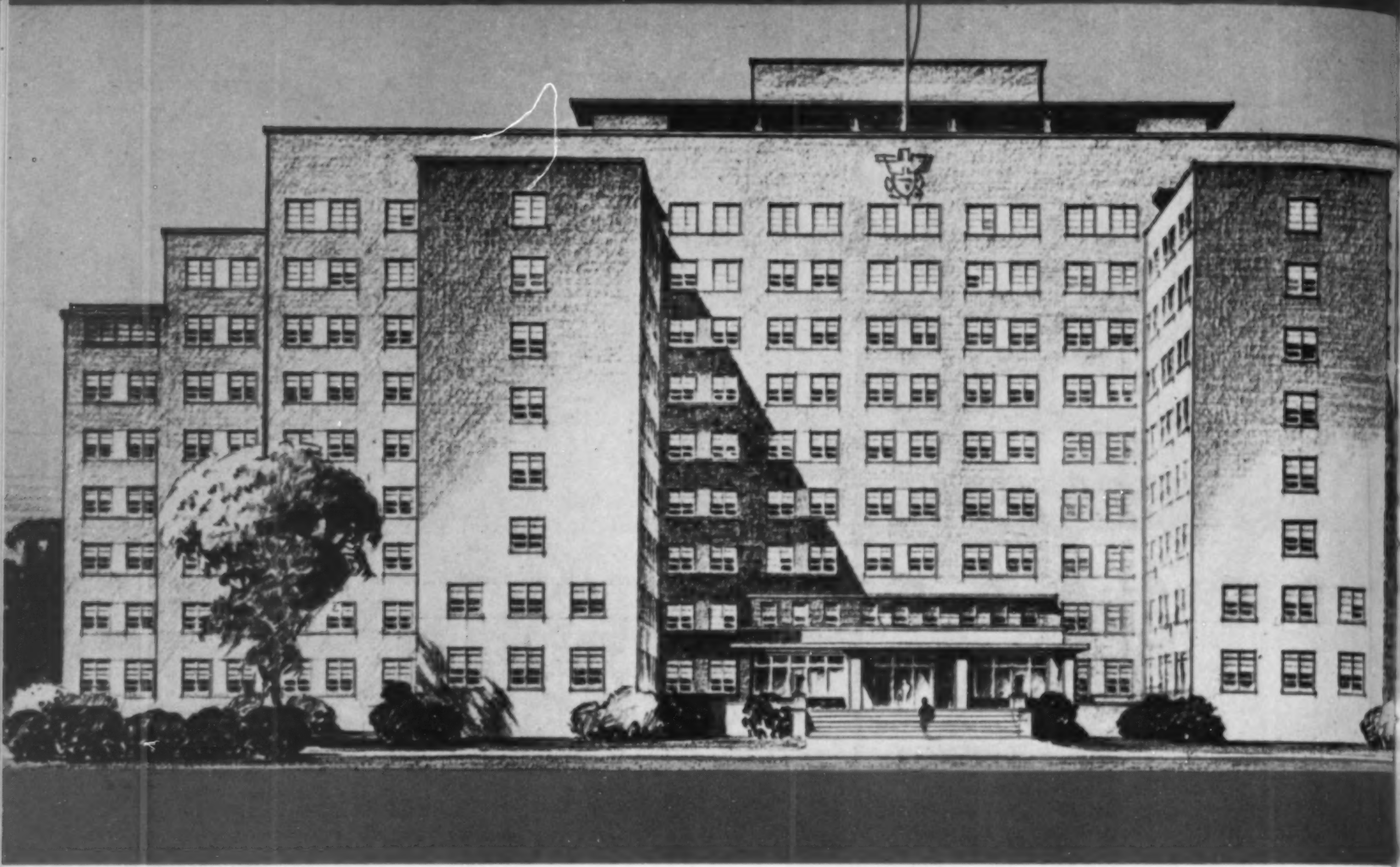
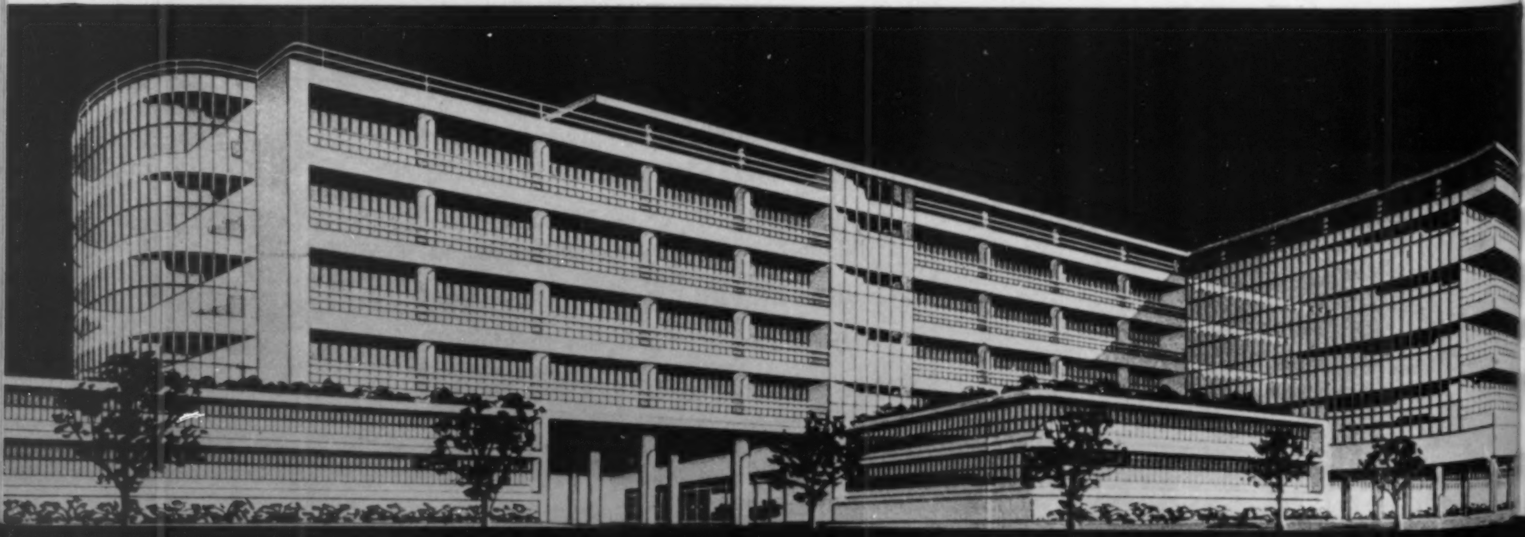


JOHNSON BUILDS ANOTHER LANDMARK!

John A. Johnson & Sons, Inc. have long been recognized as builders of outstanding structures. Creating landmarks, meeting "impossible" deadlines, getting around "unsolvable" material shortages have become routine with Johnson in the course of more than 350 million dollars of construction. Pictured above is another Johnson "unusual"—the Syracuse Veterans Administration Hospital, largest building ever to be awarded for that city.



THE RECORD REPORTS

CONTINUED HIGH BUILDING VOLUME ESTIMATED; SOME ADJUSTMENT STILL EXPECTED

THE old year closed at or near the peak of the renewed postwar construction boom which developed in the last five months of the year, Thomas S. Holden, president of F. W. Dodge Corporation, says.

Last year opened with market adjustment in full swing. In the past, Mr. Holden points out, such an adjustment following postwar price inflation has customarily been accompanied by a fairly severe recession in construction and in general business activity. In early 1949 the decline in construction volume was moderate and of short duration, but it was sufficient to arrest the upward trend of construction costs.

"It was apparently sufficient," Mr. Holden observes, "to convince the investing public by midsummer that costs had become relatively stabilized and no important advantage was to be gained by further deferment of needed projects."

Adjustment Factors Cited

The ease with which the market adjustment was accomplished is attributed by Mr. Holden to five main factors: (1) government supports for farm prices and industrial wage scales; (2) previous absence of speculation and absence of large-scale liquidation of private debt; (3) continued liberalization of home financing; (4) large-scale government spending; and (5) the inherent strength of the American economy.

This last factor, as reflected in the amazing postwar production performance of American industry and American agriculture, Mr. Holden sees as the most important of all.

Our economy produced in the year 1948 goods and services to the amount of $179 billion, and approximately the same amount again in 1949. Mr. Holden estimates that $43 billion of this staggering total represents improvement over the consumption standards of 1929, an earlier year of very high prosperity. Such improvement means more and better goods and services, because the figure was arrived at after making full allowance for population and price changes since 1929.

At the same time, and in spite of record dollar volume of construction last year, new construction investment was less in proportion to national income than it had been in earlier years of great prosperity. Physical volume of construction also, with the exception of new dwelling units, was less than the total physical volume of those earlier boom years and less than the wartime peak volume of 1942.

Mr. Holden suggests that these comparisons indicate that the American people have the financial resources to invest even larger amounts in new construction than they did in 1948 and 1949.

Demand for new construction arises principally from the growth factors in the economy. Population growth, new family formations and migration of populations create demands for new housing facilities, new school buildings and other types of community facilities. New industries and new products require new industrial plants; new developments in transportation require ground facilities and terminal facilities.

Although growth factors were temporarily devitalized in the 1930's, this defeatism happily proved to be a temporary ailment, says Mr. Holden, and potentially, the United States has "the capacity to develop its material prosperity and its enormous productivity into a truly great civilization."

"Great civilizations," he adds, "are known to history by the quality and magnitude of their achievements in architecture, engineering and construction techniques."

What Blocks 1950 Upswing?

Consideration of the huge potential growth factors in our economy, Mr. Holden feels, may well prompt the questions: Why will not a considerable measure of this potential growth be realized in 1950? and why is construction volume not expected to increase substantially this year?

Among the lines of reasoning reported by Mr. Holden to underlie Dodge figures on the construction outlook, which estimated a 4 per cent decline from the 1949 total in dollar volume of contracts, are these:

First, the belief that in many respects the readjustments of last year were not fully realized in all lines of business and that readjustments will continue this year.

Government Impact Felt

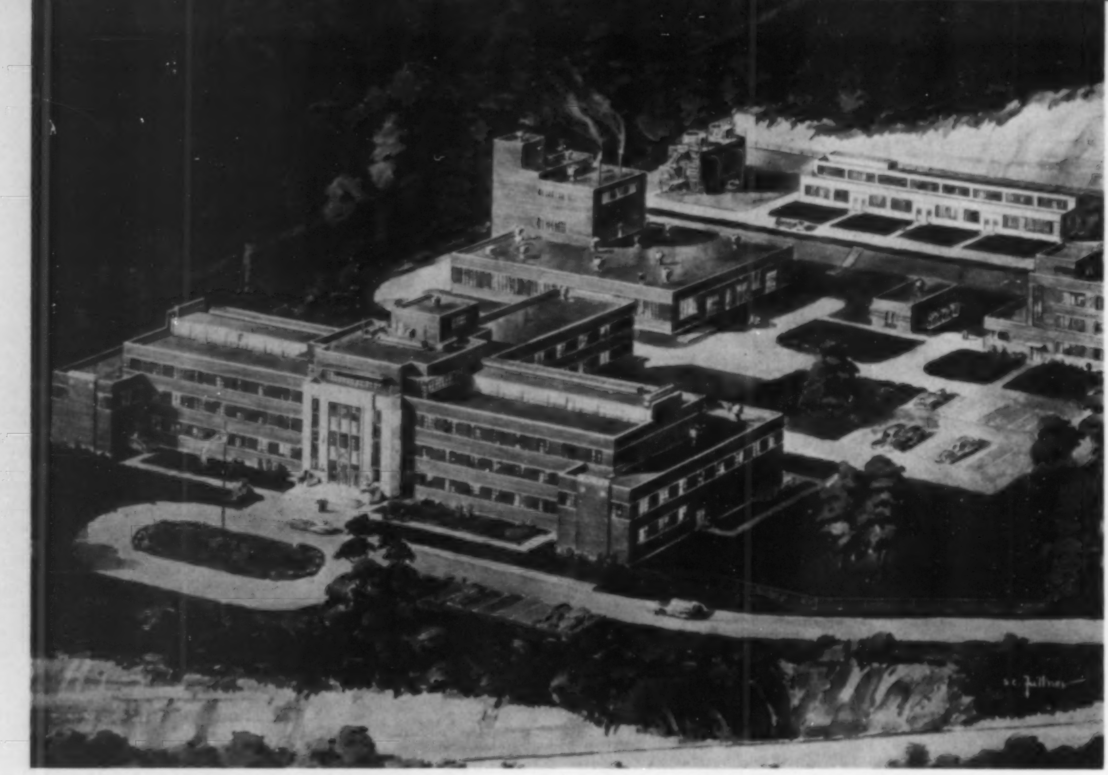
Second, the knowledge that the recent upsurge in construction was in large part stimulated by the federal government. Dollar volume of private contracts increased less than 2 per cent over 1948, but public construction contracts increased 26 per cent. Besides direct spending and large outlays for grants-in-aid, there was in midsummer a new injection of liberal home-financing credit to stimulate home building.

"It appears to be a deliberate policy of the federal government," Mr. Holden observes on this point, "to use every means at its disposal to maintain construction activity at something approximating the present high levels. Whether this policy is sound, from the point of view of the whole economy, and whether it can be continued indefinitely are questions open to argument."

Our high productivity and our great prosperity, Mr. Holden continues, can be attributed largely to our having invested in production facilities more capital per worker than any other people ever did.

Mr. Holden cites as "but one testimonial among many" to the industry's strength the report issued by a delegation of British industry construction people who visited this country last summer under the auspices of ECA. That report said the American construction industry is "at least 50 per cent more efficient" than Great Britain's.

It looks as though the construction industry will have another good year, Mr. Holden concludes.



BUILT FOR EXPANDING RESEARCH

The H. K. Ferguson Company, Engineers and Builders; Harry Porter, Project Architect

THE main research building of a new organic chemicals research center for the Carbide and Carbon Chemicals Corp. has just been put into operation on its 140-acre tract near the company's South Charleston, W. Va., plant.

The new structure, first of five scheduled in the largest single laboratory project the corporation has ever undertaken, is equipped according to the most recently developed requirements for chemical research. The completed project will eventually house fundamental organic chemical and resin research, as well as process development work for the Chemicals Corp.

The laboratory building proper is designed as a three-story T-shaped structure of steel and brick, 325 ft long by 96 ft deep. It contains 69 individual laboratories and 48 offices, a large-scale laboratory, a large library, an auditorium seating 125, and necessary storage and service rooms. Now in operation also are a 40,000-lb-per-hr steam plant, a maintenance and equipment fabricating shop, and a cooling tower, all connected by subways carrying utility lines.

Complete air conditioning, vibration absorption, a multitude of safety devices, fluorescent lighting providing an average of 40 footcandles at all working levels are provided.

TITLE VIII PROGRAM MOVES SLOWLY

By Ernest Mickel

THE desperate need for more adequate housing for military personnel throughout the world is claiming increasing attention. The Title VIII program enacted last year (Wherry Bill) will make some inroads on this complex problem but it is necessarily slow in getting started. As of Dec. 1, Federal Housing Administration had received application for loan insurance for only 5057 units of the rental-type construction, had written insurance on only 1000.

Confusion surrounded the initial phases of this program last fall and architects, along with others in the building industry, have been uncertain of procedures.

Each of the three services involved — Army, Navy and Air Force — has its own plan of operation. While there are varying degrees of centralization in Washington, architects interested in these housing projects can learn of them earlier by contacting field personnel.

The Navy, for example, recommends its projects through a chain of command starting with the local public works official at the yard or station location. This recommendation passes through the district public works office and then to the Bureau of Yards and Docks in Washington. In the Army setup, the application originates with a housing officer at the camp, post or station, goes through the commanding officer, the Army Command and finally to Washington. The Air Force has a more centralized scheme, but early information on proposed projects originates at the field or base.

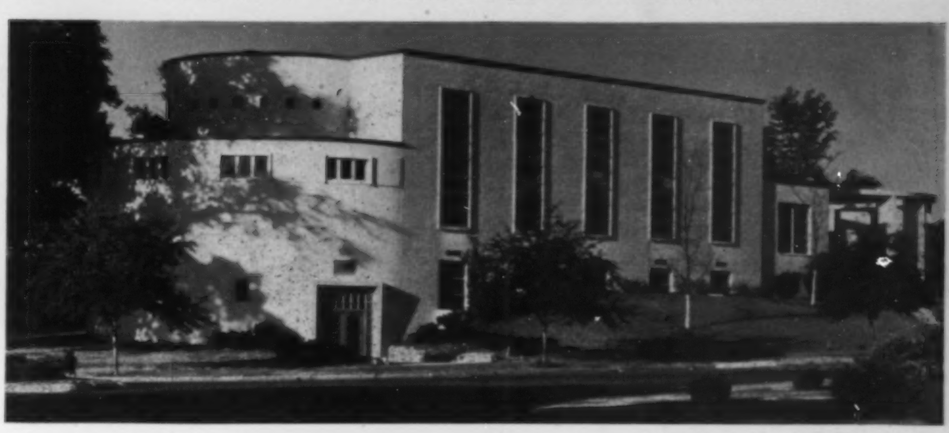
A prospective sponsor — a private contracting firm or experienced operative builder — may find himself in competition with others for the same project;

(*Continued on page 182*)

RICHMOND AND GOLDBERG AWARDED 1949 HARLESTON PARKER MEDAL

For excellence in the design and construction of the Southern Brookline Community Center, Temple Emeth," the Harleston Parker Medal for 1949 has been awarded to Isidor Richmond and Carney Goldberg, Architects and Engineers, of Boston. Established in 1921 by J. Harleston Parker of Parker, Thomas & Rice, the award is made at intervals of not more than three years for "the most beautiful piece of architecture, building, monument or structure within the limits of the City of Boston or of the Metropolitan Parks District." The Boston Society of Architects selects the recipient.

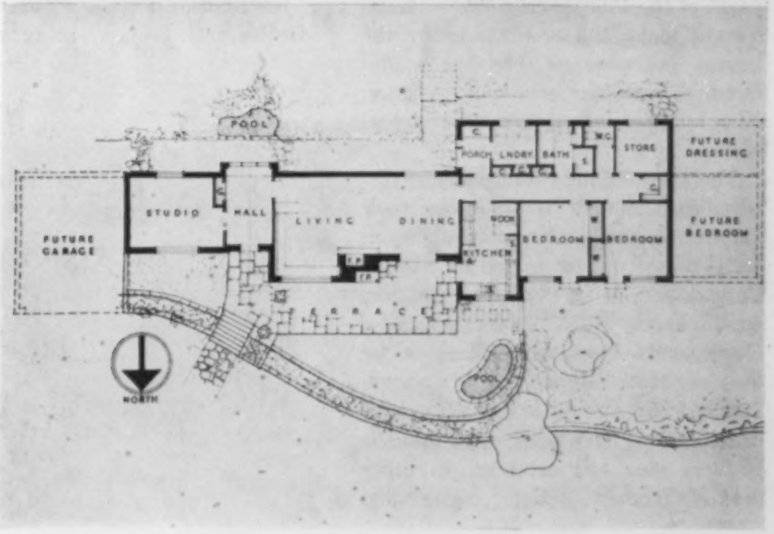
Below: Southern Brookline Community Center, Temple Emeth, Brookline, Massachusetts



Haskell Photo

A. Hanson Photos

Albert Hanson, A.R.I.B.A., A.R.A.I.A.
Architect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FUTURE GARAGE
F.P.
F.P.
KITCHEN
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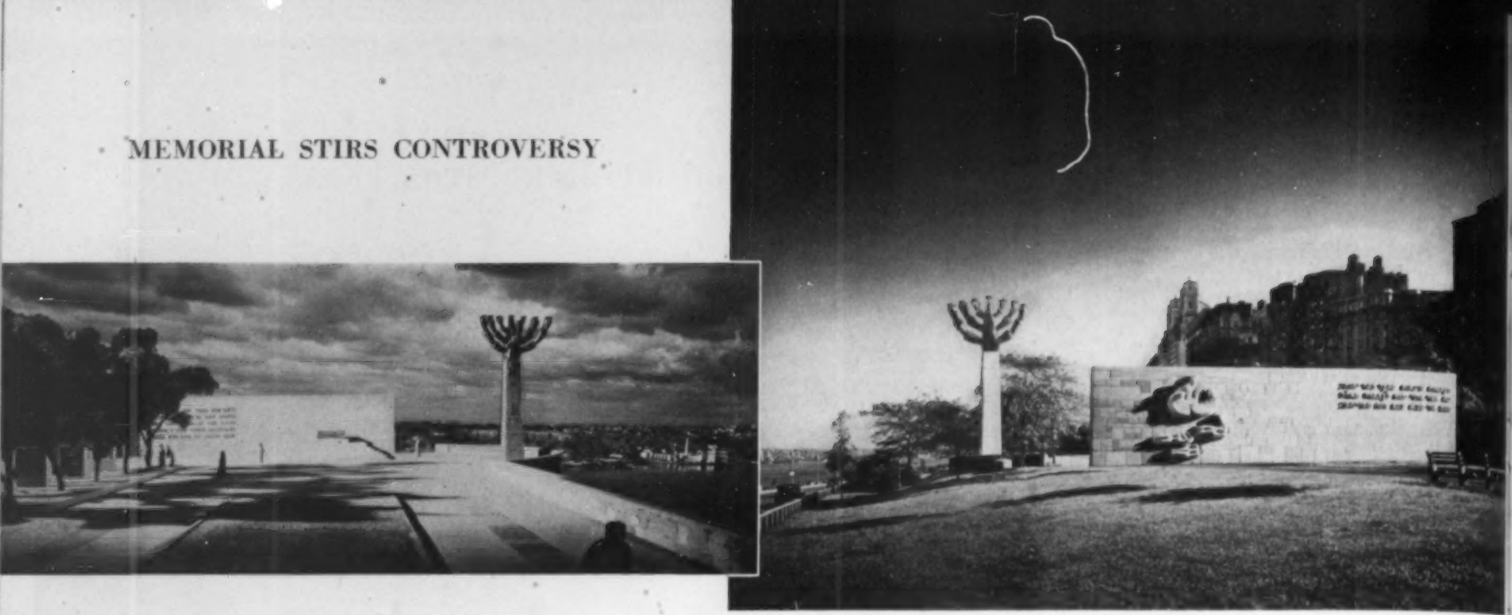
POOL
NORTH

WINS AWARD IN AUSTRALIA

This house designed by an architect for his own family has recently won for him the Sir John Sulman Medal given annually since 1932 "for the design of a building of exceptional merit" built in New South Wales or the Australian Capital Territory during the previous year. Overlooking a natural bush-covered valley, the house has pink tiles, grey walls and white accessories. Each room except bathroom and laundry faces north and has sunlight all day.

MEMORIAL STIRS CONTROVERSY



Lionel Freedman — Pictor

That old argument has a new storm center — and some very familiar protagonists.

Percival Goodman's design for a memorial for the 6,000,000 Jews killed in Europe (composite photos above) has the architect, the sponsoring committee and the New York City Department of Parks in battle joined over civic art.

The Museum of Modern Art has leaped to the fray by giving the model a month-long exhibition "to get the public reaction." A site for the memorial, on Riverside Drive at 84th Street, already has been dedicated as a gift from the city.

Is the controversy fresh evidence that the old guard never dies? Or is this a case where the esthetic truly has not been reconciled with the functional?

After failing to approve a group of statuary sketched at their invitation by Jo Davidson, the committee invited designs from five artists: William Zorach, Chaim Gross and Leo Friedlander, sculptors; Eric Mendelsohn and Mr. Goodman, architects.

Mr. Goodman says the committee accepted his design subject to modifications in the sculptured parts and that the Department of Parks rejected it because of its severe, modern lines.

Administrative Chairman A. L. Lerner of the committee, the American Memorial to Six Million Jews of Europe, Inc., has said that although the directors favored the design they did not finally accept it.

For the Department of Parks, Executive Officer Arthur Hodgkiss explains that the Department rejected the design not because of its style but because it would take up an inordinately large amount of space in one of the city's most crowded parks and because the candelabrum, set between the West Side Highway and Riverside Drive, might cause automobile accidents by attracting the eyes of drivers.

The beleaguered architect writes:

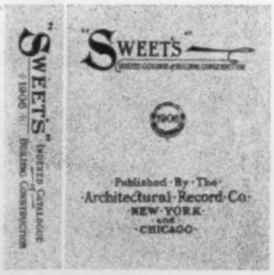
"The issue seems to me to be this: In general, the Department of Parks is interested . . . in a design that will stir no comment, awaken no feeling, positive or negative, arouse no interest. From this point of view, the best work would not be noticed at all as art, but as a mere decorative adjunct; and the best means to this is to approve only works like those that exist, that are, I fear deservedly, not noticed. But thus we shall never have a monumental *art* at all."

LARGEST *SWEET'S FILE — ARCHITECTURAL* IS DISTRIBUTED

The six volumes, 33 sections and 8400 pages of the 1950 *Sweet's File — Architectural* make the new file easily the largest collection of pre-filed manufacturers' catalogs ever put together. Nine hundred manufacturers are represented.

The idea of filing catalogs before distributing them so as to insure their maintenance and instant accessibility in users' offices was originated by Sweet's Catalog Service in 1905. The first file, cumbersomely titled "*Sweet's*" *Indexed Catalogue of Building Construction for the Year 1906*, comprised only one volume of 760 pages. Since then many new classifications have been added and the prefiling idea has extended to other fields — product design, engineering, mechanical industries, power plants, etc.

Distribution of the new *Sweet's File — Architectural* is now being made to nearly 17,000 qualified architects, engineers, general building contractors, government offices and libraries.



"SWEET'S" INDEXED CATALOGUE of BUILDING CONSTRUCTION

1906

"SWEET'S"

1906

·Published·By·The·
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·NEW·YORK·
and
·CHICAGO·

PRORATING YOUR INCOME CAN EFFECT TAX SAVINGS

By Everett J. Mann, Certified Public Accountant

The tax relief under Section 107 of the Internal Revenue Code, as set forth in this article, has no relation to the Silverson Plan. The Silverson Plan is merely contemplated legislation which may some day become part of the tax laws. The tax relief herein described can be of immediate benefit to professional men who meet the qualifications.

AN architect is often required to spend several years in working out and developing a project. Only when he has completed the work does he receive his fee, or the bulk of his fee. This has the effect taxwise of piling up income within one taxable year and causing his income to soar into higher brackets. The result is that he pays a much higher income tax than he would have paid had his income been received ratably over the period of his work.

Several years ago Congress recognized this inequity and drafted Section 107 into the Internal Revenue Code. Section 107 provides tax relief for any professional person who receives lump sum income in one year by allowing the individual to go back over a period of years and amend his tax returns for the period over which he did the work.

There are certain strings attached, of course, if one is to take advantage of this privilege. Specifically, there are three criteria imposed. First, the compensation received must be for *personal services rendered*. No architect should have any difficulty here. Secondly, the services rendered must have covered a period of at least 36 months; and, third, 80 per cent of the compensation for the work must have been received in *one* year.

Savings Through Income Proration

For the purposes of examining the practical effects of the law, let us assume that on Dec. 13, 1949, an architect receives a fee of $45,000 for services performed over the period March 7, 1946 to Nov. 26, 1949. In passing, it should be noted that fractional months are disregarded unless the fractional period amounts to more than half a month. In this event, the fractional period is considered equivalent to one month. In the situation just outlined, the architect has earned $45,000 over a period of 45 months and is entitled to prorate his earnings as follows:

Year	*Months*	*Amount*
1946	10	$10,000
1947	12	12,000
1948	12	12,000
1949	11	11,000
	45	$45,000

It can be seen that the proration of income is by actual months from the time the work was begun; it is not blanketed merely by calendar years. The architect in question may amend his 1946, 1947 and 1948 income by adding thereto the amounts shown above. He adds $11,000 to his other 1949 income.

To illustrate the amount of tax savings possible, let us further assume that the architect had net taxable income, other than from that of the above fee, of $10,000 per year in each of the years 1946, 1947, 1948 and 1949. The following table will show his net tax saving if he amends his prior year returns rather than including the entire $45,000 in his 1949 income.

	Income Before Proration	Tax
1946	$10,000	$ 2,508
1947	10,000	2,508
1948	10,000	2,303
1949	55,000	26,882
Total Tax		$34,201
	Prorated Income	**Tax**
1946	$20,000	$ 6,897
1947	22,000	7,961
1948	22,000	7,354
1949	21,000	6,862
Total Tax		$29,074

From this example, it can be seen that a saving of $5127 would result from amendment of former returns as against paying the tax on the income when received.

(*Continued on page 20*)

"Functionalism would date you — what you want is space cadence —"

— Drawn for the RECORD by Alan Dunn

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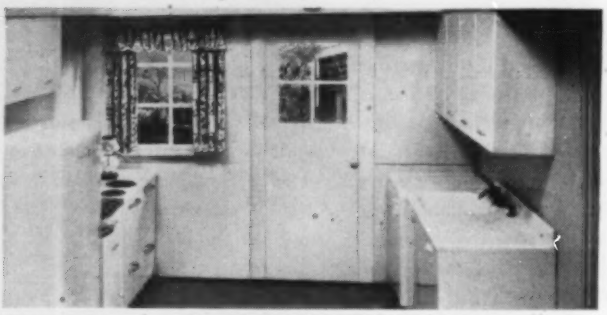

"Everything for approximately $65.00 a month — includes taxes, interest, and principal." That's what attracted and sold prospects who saw this Oman & Sons home equipped with a complete General Electric Kitchen-Laundry!

"Sold 125 houses in 10 days!"

Arthur H. Oman

• Mr. Arthur H. Oman of ARTHUR OMAN and SONS, Brockton, Massachusetts, says:

"We sold all the houses in ten days, due to the right combination of houses and appliances. Tens of thousands went through the Model Home . . . were favorably impressed with the complete line of General Electric appliances."

"We sold 54 the first week end!"

• Mr. J. J. Carey of Hutchinson and Carey, Denver, Colorado, says:

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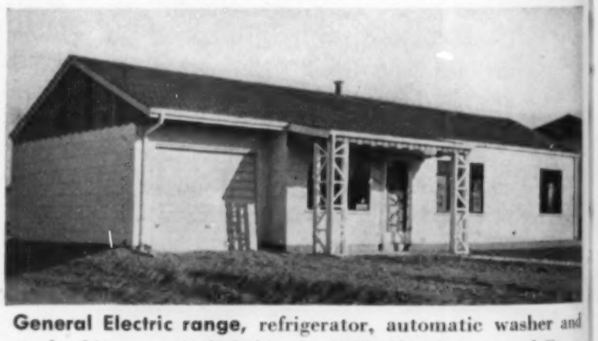

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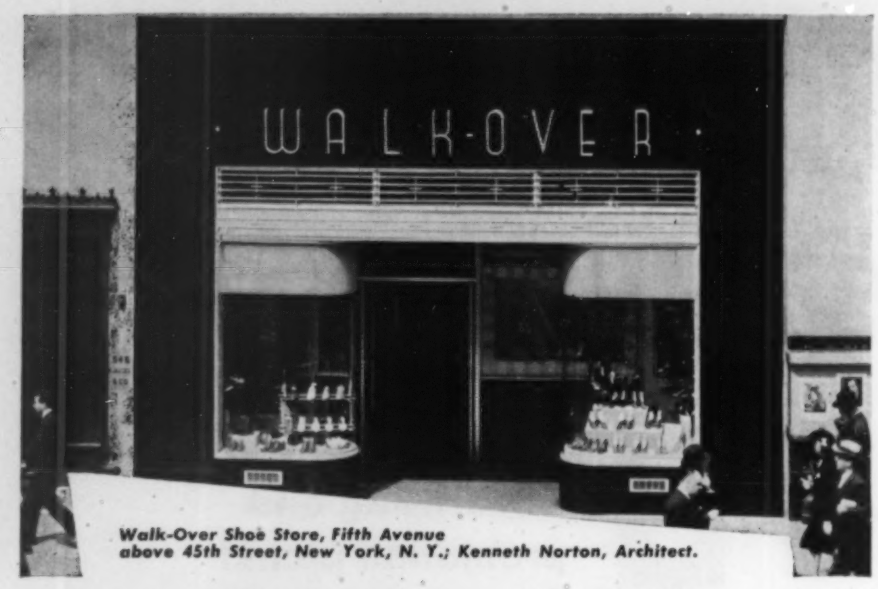
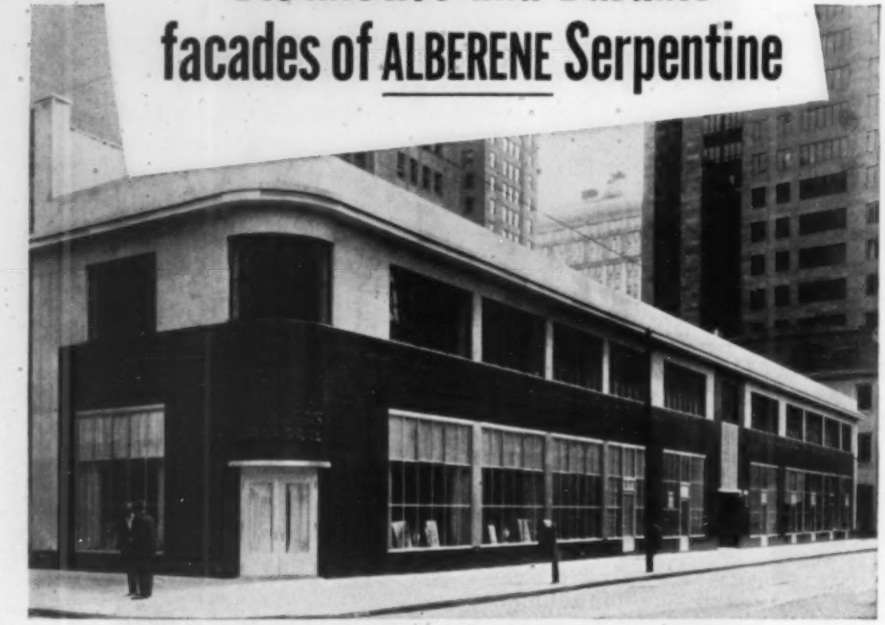


Walk-Over Shoe Store, Fifth Avenue above 45th Street, New York, N. Y.; Kenneth Norton, Architect.

Distinctive and Durable facades of ALBERENE Serpentine



Flanders Bar & Grill, Philadelphia, Pa.; George W. Pepper, Jr., Architect.

You can count on attractive design effect and long-lasting service when you use *Alberene Virginia Black Serpentine.* The distinctive facades pictured above were built more than a decade ago, and they're still in excellent condition . . . still richly handsome in appearance.

You'll find Alberene Virginia Black Serpentine doubly economical — low in installation cost and free of maintenance expense. It can be cut into sections as thin as 7/8", because it has great toughness and density. We'll be glad to send you a set of samples, conveniently boxed, showing the range of dark stones available from our quarries. Just write to —

ALBERENE STONE CORPORATION OF VIRGINIA
419 Fourth Avenue, New York 16, N. Y.
Offices in Principal Cities

(*Continued from page 15*)

Elections To Consider

A few technical details are perhaps necessary to clarify further the workings of Section 107. First of all, it should be noted that the right to amend prior year returns is an *election,* not a *mandate,* under the law. For instance, in the example cited above, if the architect had large 1949 losses from other ventures, he might be "tax wise" to include the entire $45,000 in his 1949 income and not bother with amending his former returns. It is not always easy to say that the relief provided in the tax laws is the best individual solution. A careful computation of taxes must be made before deciding to amend former returns.

This gives rise to the further thought that most architects report their income on a cash basis — that is, they report their incomes in the year they are received in cash and deduct only those expenses paid in cash. This is contrary to the rule in most businesses, where tax returns are filed on the accrual basis. Thus, for the "cash basis" architect, although the income he earns may be prorated over a period of years, *the expenses of producing that income are not prorated.* He can control his expenses to suit his best interests. In the years when taxes are high, he can plan his expenditures and deductions to be at a maximum; in low tax years he can keep expenses at a minimum. By doing this, he secures the greatest tax advantages.

Time of Completion of Project

It often happens that the time of the completion of a work and its payment do not happen simultaneously. In that case, the event that takes place *first* controls the period over which income may be prorated. In the above case, assume that the architect was paid for his services on Aug. 18, 1948 instead of on Dec. 13, 1949 as originally supposed, or on Nov. 26, 1949, when his work was completed. Despite the lapse between the time of payment and the time of completion, the architect is entitled to prorate his income only over the 30-month period from March 7, 1946 to Aug. 18, 1948. This would be at the rate of $1500 a month. He may qualify for relief because his services were ac-

(*Continued on page 21*)

(*Continued from page 20*)

tually performed over a 45-month period even though he received his fee at a time when he had worked only 30 months.

On the other hand, if the architect were to be paid at any time after Nov. 26, 1949, possibly in a succeeding year, he is entitled only to a 45-month proration for the period March 7, 1946, to Nov. 26, 1949. His 1946, 1947, 1948 and 1949 returns are affected as shown by the first table above.

Others Eligible For Relief

If a partnership is in existence, *all the partners are entitled to secure tax relief even though the services were performed by one of the partners*. This would mean that the firm's partnership returns would have to be amended and all of the partners would have to file amended individual returns to reflect the differences in the partnership's income.

It is perfectly possible that an individual architect or a firm may have several jobs being completed in one year that are eligible to qualify for proration. In that case, some fairly complicated scheduling and computations might be necessary, but all of the jobs may be worked out on the prior year returns.

Ordinarily claims for tax refund are outlawed within three years after the returns have been filed. This is not true of income eligible for proration. Returns for as many as 20 years back may be opened up and income restated, if the taxpayer can show he was truly engaged in working on a job over this period of time.

Cautions To Be Observed

In conclusion, it should be reiterated that 80 per cent of the income from a job must be received in one year. If 79.9 per cent of the total fee is received in one year and 20.1 per cent in another, the privilege of proration is gone. By the unwise billing of jobs, substantial tax advantages may be sacrificed.

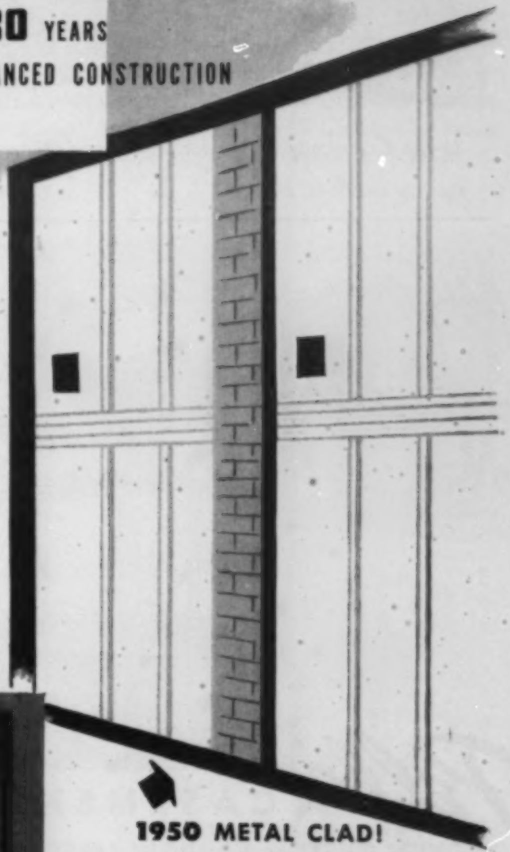
The task of securing tax relief under Section 107 may require many hours of computations and large consumption of midnight oil. At the same time, the tax relief that can be secured may offset even longer hours spent over a drafting board.

(*News continued on page 22*)

Security FREIGHT ELEVATOR DOORS

FOR OVER 30 YEARS

PIONEERS IN ADVANCED CONSTRUCTION



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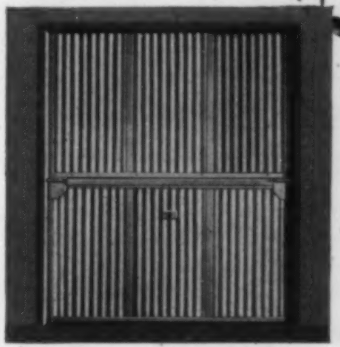
2. Adjustable Anti-Friction Shoes.
3. Rigid Stay-Set Trucking Supports.
4. Plug-Proof Interlocks
5. Uni-Motor Individual Door Operators.
6. Practical Engineering.

which, combined with long experience and constant field checking and servicing have kept Security as leaders in meeting constantly changing industrial needs.

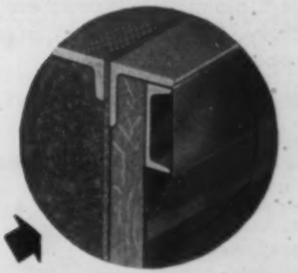


YEARS AGO—ALL STEEL

now obsolete and frequently replaced by Security Metal Clad Doors.

1950 METAL CLAD!

The proven construction for maximum life and endurance to withstand rough usage and abuse of modern power trucking.



1950 UNDERWRITERS LABELED DOORS

provide minimum standards for hatchway entrance protection.
Security's Underwriters labeled doors are specifically designed for the maximum requirements of each individual job so that they will give the better and *lasting* protection that owners seek,

1950 REINFORCED TRUCKING BARS

Modern Security Doors are known for the reinforced construction of their trucking bars.
Individually engineered for each installation, these heavy duty trucking bars adequately handle the job indefinitely.

this assures *continued*

Lowest fire insurance rates
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Security FIRE DOOR CO.

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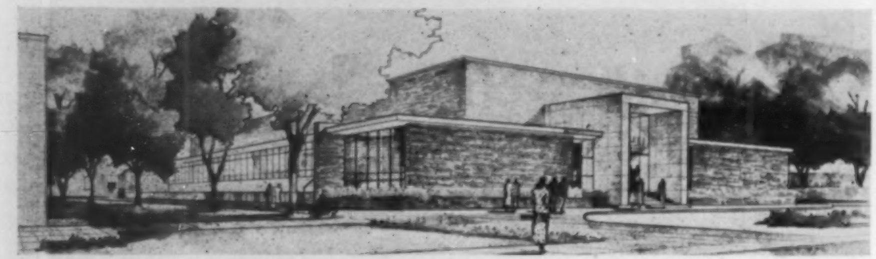
(*News continued from page 21*)



Jewish Community Center for Englewood, New Jersey; Kelly & Gruzen, Architects

MODULAR PLANNING CITED AS AID IN KEEPING COSTS DOWN

Extensive use of uninterrupted glass exterior walls and modular interior partitioning systems providing an unusual versatility of room arrangement helped the architects for this quarter-million-dollar Jewish Community Center in Englewood, N. J., to create a building with a variety of social, educational and recreational facilities at a cost far below that of the usual structure of this type.

In working out a suitable structural design, the architects and Structural Engineer Fred Severud considered all usual and several unusual methods of spanning large areas. These included laminated wood arches, metal and concrete rigid frames, etc. For this particular job it was determined that more conventional steel framing provided the least expensive and from the design point of view the most satisfactory method of enclosing the space.

The building will occupy a plot 125 ft by 345 ft adjacent to an existing small temple belonging to the same congregation.

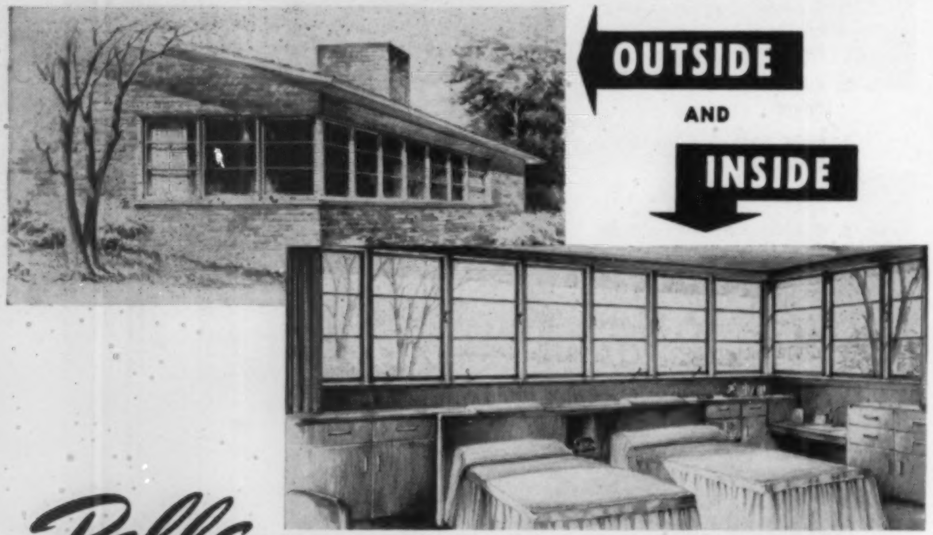
Interior and exterior wood construction was found to be most economical. The auditorium portion will have steel framing and brick cavity walls. Precast concrete planks are used for the main auditorium roof. Briar Hill stone will be used on the front elevation only. Continuous strips of steel windows located between bearing wood mullions will contribute to good daylighting for classrooms, which have clerestory windows on the upper north wall for cross ventilation and augmented daylighting.

The auditorium, seating 700 and for use also as a gymnasium, will open off a 60 ft lobby. Mezzanine dressing rooms over the stage will serve as choir room and organ loft when the auditorium is used for high holiday services.

The school section, normally comprising six classrooms and a kindergarten, is designed as a modular system for flexibility to meet any change in space requirements. The kindergarten opens on an interior patio.

A youth game room 64 ft by 33½ ft is part of the social and recreational area in the basement, which also includes a special exercise room, a darkroom for camera enthusiasts, and an arts and crafts room.

(*News continued on page 23*)



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Pella Casement Units can be combined into more than 300 different sizes of varying width and height. Installation cost is cut to a minimum because all Pella Casement Windows are completely assembled and pre-fitted at the factory. Pella Casements, in modular dimensions, fit right into specified rough openings.

CHECK THESE CONVENIENT, LOW-COST *Pella* FEATURES

ROLSCREENS—Pella Casements are equipped with inconspicuous, convenient Rolscreens that roll up and down like window shades. Rolscreens eliminate putting up, taking down, painting, repairing and save valuable storage space.

DUAL GLAZING AND WEATHERSTRIPPING All Pella Casements are dual glazed to insulate against winter cold and summer heat . . . weather-stripped to eliminate drafts.

EASY TO OPERATE — Pella's patented hinge design and construction assure easy operation.

FITS ALL TYPES ARCHITECTURE — Pella Casements fit snugly into wood, frame, brick, brick veneer, stone, etc. They convey dignity and stateliness to Colonial architecture . . . enhance Cape Cod "coziness" . . . lend breadth to Modern or Spanish styles and sturdiness to half-timbered English.

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(*Continued from page 22*)

BRAB WEATHER CONFERENCE

The first Research Correlation Conference of the Building Research Advisory Board held Jan. 11 and 12 in Washington was in the nature of an exploratory meeting designed to bring out what weather data is available, how this data is applied now and, more important, how it might be put to better use in the future and also what further data is needed.

The problem of designing the structure to fit the climate, as brought out by the speeches and panel discussions, can fairly well be divided into four main points.

First of all is climate itself, the climate of a fairly large area (macroclimate) and the climate of a site (microclimate). The more important of these to the designer, who needs more information on how to determine it, is microclimate. Second, there is greater availability than demand for existing weather data, and new methods of exploiting it are needed for determining durability of building materials and performance of climate control devices. Third, economics of construction must be considered as well as optimum design from the scientific angle. And fourth, people are looking for psychological satisfaction as well as thermal comfort in a structure.

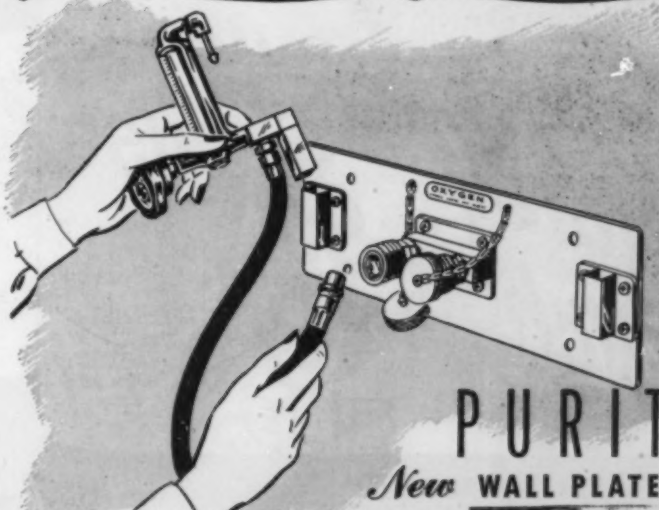
Conference Chairman C. F. Rassweiler, who is BRAB Executive Committee chairman and vice president in charge of research for Johns-Manville Corp., opened the program and at the end summarized the results of the meeting from the standpoint of building technology. Francis W. Reichelderfer, chief of the U. S. Weather Bureau, summarized the conference for the weather sciences.

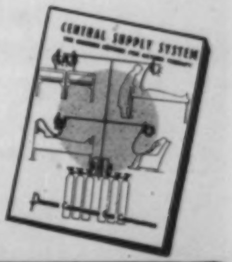
The conference led off with reports on recent climatological research by government and Army weather experts including Dr. Paul Siple, U. S. Army General Staff military geographer and Dr. Helmut Lansberg, executive director of the Committee on Geophysics and Geography of the Research and Development Board.

Walter A. Taylor, director of the A.I.A.'s Department of Research and Education, was moderator for the discussion "Climate and the Design of Building," which included talks by James M. Fitch, architectural editor of *House Beautiful*, on "Buildings Designed for Climate Control," and by Dr. L. P. Herrington, director of research for the John B. Pierce Laboratory of Hygiene, on "Human Factors in Planning for Climate Control." Speakers in the discussion that followed were William B. Caudill, Robert W. Cutler, Carl Koch, Alfred B. Parker, Buford L. Pickens.

(*News continued on page 24*)

Dr. C. F. Rassweiler, Conference Chairman





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PURITAN

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Equipment for administration is positioned for use in a minimum of time when Puritan Wall Plates are used, and the Quick-Connector Valves provide safe connection to oxygen supply in a matter of seconds. Thus administration is simplified and the attendant freed for other duties. Wall plates are of heavy, gleaming stainless steel with chrome fittings, designed to remain firmly in place and prevent damage to walls. Single or duplex sizes available.

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Taft-Hartley Results Called "Disappointing" to Builders

Counsel general Robert N. Denham of the National Labor Relations Board addressed some 1100 leaders in the building industry at the January 12 annual dinner of the Building Trades' Employers Assn. of New York City. Speaking on the application of the Taft-Hartley Act to the building industry, Denham summarized: "It is pretty disappointing to find how little we seem to have accomplished (to achieve) a crystallization of official thought as to the meaning and intent of the law." "Difficulty in obtaining a divorcement of thinking . . . from (the) old Wagner Act formulae," "expectation that the Taft-Hartley Act would be repealed," and "honestly held conflicting opinions" were among the factors he advanced for the present state of uncertainty. Many of the pitfalls for both labor and employers were stressed.

On the rosier side, Denham felt that before the end of 1950 there would be "some constructive decisions of the Courts" to clarify the situation. A tribute was paid the New York organization of contractors and labor to handle disputes, cited in a previous speech by Peter W. Eller, chairman of the BTEA Board of Governors. The group gave "a very real inspiration" for the National Joint (Dunlop) Board for the Settlement of Jurisdictional Disputes, Denham added. Since the forming of this board in 1948, "losses to builders and employees throughout the nation . . . from work stoppages based on jurisdictional disputes . . . have been reduced to less than 10 per cent of (those before) the Taft-Hartley Act went into effect."

Earlier that same day, the New York Building Congress met to hear Nelson Rockefeller speak on "The Growth of the Community." Architect Louis Skidmore, president of the Building Congress, presided at the meeting.

Mr. Rockefeller was introduced by Architect Wallace K. Harrison, Honorary Chairman, who cited the large volume of construction done by Rockefeller, particularly in South America. Beginning with a discussion on Rockefeller Center, Mr. Rockefeller continued with comments on the operation of the community as it applies to the world and our special obligations of today.

ASHVE MEETS IN DALLAS

The American Society of Heating and Ventilating Engineers held its 56th annual meeting in Dallas, Texas, January 22–26. Highlighting the five-day meeting was a series of technical sessions devoted to discussing new developments in the field.

The first session covered night-air cooling and a physiologic examination of the effective temperature index. Topics of interest in the following meetings included heat pump performance, solar heating and baseboard radiation. Panel heating and cooling were analyzed from such varied aspects as heat flow within concrete panels and effect of panel location on skin surface temperature.

C. Rollins Gardner was general chairman of the committee on arrangements.

(*News continued on page 146*)

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..Noisy Bells or Kitchen Smells
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Electric Door Chimes
Kitchen Ventilating Fans

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CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	*Residential*		*Apts., Hotels Office Bldgs.*	*Commercial and Factory Bldgs.*	
	Brick	*Frame*	*Brick and Concr.*	*Brick and Concr.*	*Brick and Steel*
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1945	160.5	161.7	156.3	158.0	155.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
Sept. 1949	239.2	236.3	240.6	244.0	237.5
Oct. 1949	242.7	239.4	241.0	244.2	237.6
Nov. 1949	242.7	239.4	241.0	244.2	237.6
	% increase over 1939				
Nov. 1949	**96.5**	**95.6**	**84.4**	**83.1**	**82.6**

ATLANTA

Period	*Residential*		*Apts., Hotels Office Bldgs.*	*Commercial and Factory Bldgs.*	
	Brick	*Frame*	*Brick and Concr.*	*Brick and Concr.*	*Brick and Steel*
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1945	132.1	133.9	123.2	122.8	123.3
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
Sept. 1949	183.7	183.7	178.4	178.4	174.8
Oct. 1949	184.3	184.7	177.9	177.6	174.7
Nov. 1949	184.8	186.0	178.2	177.8	175.1
	% increase over 1939				
Nov. 1949	**114.1**	**123.8**	**87.3**	**82.5**	**84.8**

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1945	152.8	152.3	146.2	148.5	145.6
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
Sept. 1949	218.2	216.2	212.9	216.2	214.4
Oct. 1949	218.9	217.1	213.1	216.2	214.5
Nov. 1949	220.9	219.2	214.2	217.9	215.4
	% increase over 1939				
Nov. 1949	**100.4**	**104.8**	**80.4**	**81.8**	**81.0**

SAN FRANCISCO

1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1945	146.2	144.3	144.5	146.8	147.9
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
Sept. 1949	208.4	200.8	213.6	218.9	214.4
Oct. 1949	212.2	205.8	214.9	219.8	215.0
Nov. 1949	213.6	207.6	215.2	220.0	215.4
	% increase over 1939				
Nov. 1949	**102.2**	**109.0**	**83.3**	**80.4**	**84.8**

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear whenever changes are significant.

STANWORTH, Princeton, N. J. *(Below)*
Comprises 23 one and two-story garden-type apartment buildings, designed to harmonize with surrounding fine private homes. *Architects*: Holden, McLaughlin and Assoc. *Gen. Contractors*: Wm. L. Crow Const. Co. *Floor Contractors*: Builders' Wood Flooring Co.

MANHATTAN HOUSE, New York City
When completed in 1950, will contain 582 apartments in a 19-story and penthouse building occupying an entire block. *Associated Architects*: Mayer & Whittlesey—Skidmore, Owings & Merrill. *General Contractors*: Cauldwell-Wingate Co. *Floor Contractors*: Builders' Wood Flooring Co.

FRESH MEADOWS, Queens, Long Island
A modern residential community of 3,000 apartments in 138 two and three-story and two thirteen-story structures. *Architects*: Voorhees, Walker, Foley and Smith. *Gen. Contractors*: George A. Fuller Co. *Floor Contractors*: Builders' Wood Flooring Co.

In all three New York Life apartment developments

It's Bruce Block Hardwood Floors

The apartment developments of the New York Life Insurance Company, pictured above, vary widely in location, architecture, planning, size, and rental rates. But, in all three, ideas and materials have been used which provide beautiful, modern apartments for tenants and sound investment value for the owners.

Take the floors, for example. In Fresh Meadows, Stanworth, and Manhattan House, Bruce Blocks give rooms the natural, friendly beauty of hardwood plus decorative modern design. These floors are beautiful and stylish, yet so homelike and livable. They are warm, quiet and comfortable underfoot . . . and are easy to keep clean and shining at all times.

These solid hardwood floors are thrifty for owners because they last the life of the building. Even after many years of hard service, all their original beauty can be restored by refinishing.

Used in 9 out of 10 largest apartment projects

Bruce Hardwood Blocks have been selected for 9 out of 10 of the nation's largest apartment developments owned and operated by life insurance companies. Over 100,000,000 sq. ft. have been used in apartments, homes, offices, schools and stores from New York to California. This hardwood flooring is particularly adapted to modern construction because it can be laid in mastic directly over concrete, without wood subfloor or screeds.

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Bruce Block Hardwood Floors

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World's Largest Maker of Hardwood Floors

REQUIRED READING

TWO ON HOSPITALS

Design and Construction of General Hospitals. The Modern Hospital Publishing Co., Inc. (919 N. Michigan Ave., Chicago 11, Ill.), 1949. 110 pp., 8¾ by 11½ in.

This collection of articles originally published in "The Modern Hospital" is intended, according to an introductory statement, to give hospital architects "the same familiarity with hospital functioning that they would have if they worked on the floors and in the kitchens, boiler room, laundry, and other hospital departments."

Although no architect could qualify for a nurse's aide certificate on the basis of his reading of this book alone, many will find here in convenient form a great deal of general information about hospital procedure as it affects building design. The flow charts, area tables, and equipment schedules should be particularly useful for check-list purposes.

Washington State Hospital Study: A Guide to Expanding Hospital Service. Washington State Department of Health (Smith Tower, Seattle, Wash.), 1949. 79 pp., 8½ by 11 in.

Methods being used in the State of Washington for determining specific hospital and public health service needs are set forth in this report, which is intended to explain criteria for allocating the federal funds for hospital construction available to the states through the Hospital Survey and Construction Act, Public Law 725. Aside from its interest as a survey document, this report presents study methods of interest to all planners of hospital service.

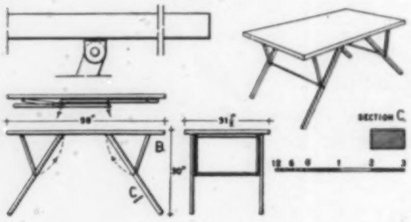
TWO ON FURNITURE

Modern Furniture. By Mario Dal Fabbro. Reinhold Publishing Corp. (330 West 42nd St., New York 18, N. Y.), 1949. 11½ by 8¾ in. 174 pp. illus. $5.00.

Furniture Forum. Published quarterly by Phillip L. Pritchard, 254 West 54th St., New York 19, N. Y., 8½ by 11 in., 64 pp., illus. $4.50 per year.

Mario Dal Fabbro, ex-Italian furniture designer now in the U.S.A., has produced his first American book — probably not his only one, if his future work can be predicted from his past. This venture is at least refreshing: mostly drawings which have a flavor foreign to this country, it shows us what the furniture of several designers looks like when viewed by an ex-Italian.

Perhaps half a dozen American designers' chairs, tables, cabinets, stools, etc. are included; the remainder are Italian or Swiss, with a few pieces of Swedish, English, or German origins. The drawings are quite carefully accurate, and at first glance convey the impression of full detail; over-all dimensions are given for each piece; but close examination reveals that in actuality the details which matter are appallingly absent. There is great preoccupation with the mechanical operation of the furniture; everything tilts or hinges or folds or demounts or collapses — one hopes not accidentally. All this is indicated with lots of arrows. When one tries to ferret out the design of a joint, however, to see just how that surface is continued so sleekly from a vertical plane around a corner and over a horizontal — well, none but the most obvious are included. (Perhaps furniture designers and manufacturers consider these trade secrets.) There is almost no upholstered furniture. Nor are there any notes on the specific materials, colors, or finishes: wood is wood, metal metal, cloth cloth, and that's that.



One of the diagrams from "Modern Furniture" by Mario Dal Fabbro

In the back of the book are 16 simple pieces laid out for the amateur craftsman to build. Here the details are fairly complete, although the hatracks and night tables shown are not much advanced over the projects built in the average high school manual arts class. Indeed, the examples so carefully selected throughout the entire book have the spindle-legged, delicate, too-nicely-balanced look of much contemporary Italian work. There is a faint odor of decadence about them — or does this come from the style of drawing? Surely not all of Charles Eames', George Nelson's, or even Mario Dal Fabbro's furniture has exactly that unsubstantial quality.

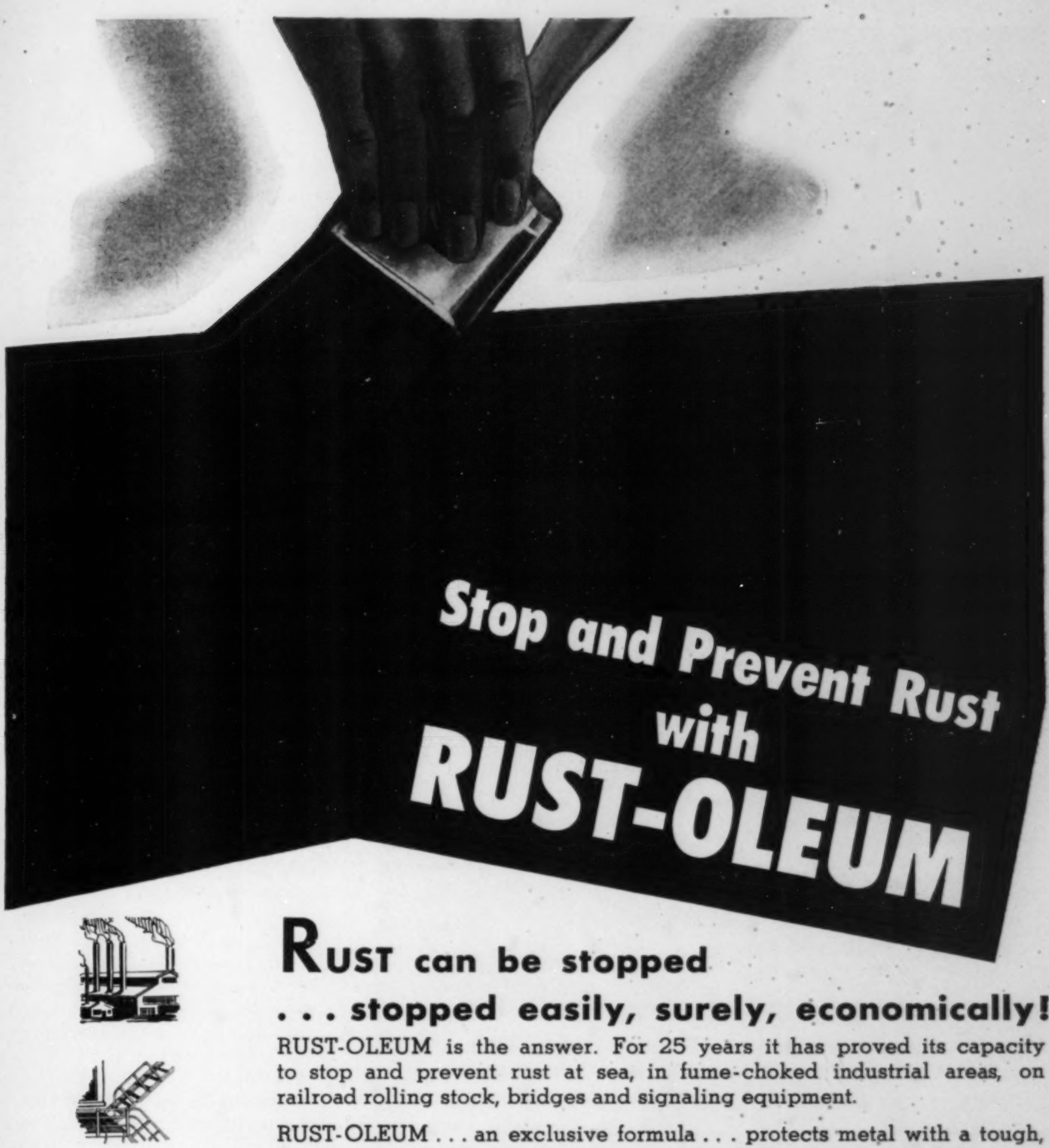
In contrast, "Furniture Forum," a quarterly started in 1949, contains a nearly complete presentation of good contemporary American furniture, plus several of the standard modern fabrics, accessories, and lamps. In reality a catalog obtainable by subscription, this publication contains not only photographs of all pieces, their prices, dimensions, species and finishes of wood, colors, fabrics, etc.; it also includes thumbnail biographies of the designers, and addresses of both manufacturers and retailers. The more recent issues include brief articles by designers in various fields. These aren't long, and every designer has pet subjects concerning which he can often write entertainingly and sometimes profoundly. But even though this reviewer agrees thoroughly with Alvin Lustig, for instance, when that able dialectician squares off versus the current preoccupations with superflexibility and super technology, is a catalog the place for expressions of opinion? Aside from this, and an occasional bit of typography so carefully designed as to be unreadable, the quarterly catalog deserves a big hand. We venture the guess that it would save every architect who buys furniture for his clients many times the cost of a subscription.

NEW EDITIONS

Architectural Practice. By Clinton H. Cowgill, A.I.A., and Ben John Small, A.I.A. Reinhold Publishing Company (330 West 42nd St., New York 18, N. Y.), Revised Edition, 1949. 8¾ by 11½ in. 422 pp. illus. $12.50.

Originally published in January, 1948, this manual for the practicing architect has now been brought up to date with recent changes in registration requirements, new sample examinations, and new material on professional liability insurance in the contracts section. Two new features are the results of a study

(Continued on page 30)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(*Continued from page 28*)

of the rating of architects and draftsmen made by the Michigan Society of Architects, and the findings of a survey on product specification.

Planning: The Architect's Handbook. By S. Rowland Pierce and Patrick Cutbush. Iliffe & Sons, Ltd. (Dorset House, Stamford St., London S.E. 1, England), Sixth Edition, 1949. 8½ by 10¾ in. 487 pp. illus. 21 s.

Many sections of the book have been enlarged in this new Sixth Edition, and the page size has been reduced, making the volume easier to handle.

The Autobiography of An Idea. By Louis H. Sullivan. Peter Smith (321 Fifth Ave., New York 16, N. Y.), Third Printing, 1949. 5½ by 8½ in. 330 pp. $3.50.

The publication of Frank Lloyd Wright's *Genius and the Mobocracy* makes timely this new printing of the Sullivan apologia, made from the original 1924 plates by arrangement with the American Institute of Architects.

PIONEER ARCHAEOLOGIST

Frederick Catherwood Archt. By Victor Wolfgang von Hagen, with introduction by Aldous Huxley. Oxford University Press (114 Fifth Ave., New York 11, N. Y.), 1950. 6 by 9¼ in. 177 pp. + 31 plates. $5.00.

Best known for his drawings of Mayan culture, the British artist and archaeologist Frederick Catherwood seems to have pursued a career of unique accomplishments coupled with a strange fate of misfortune and obscurity.

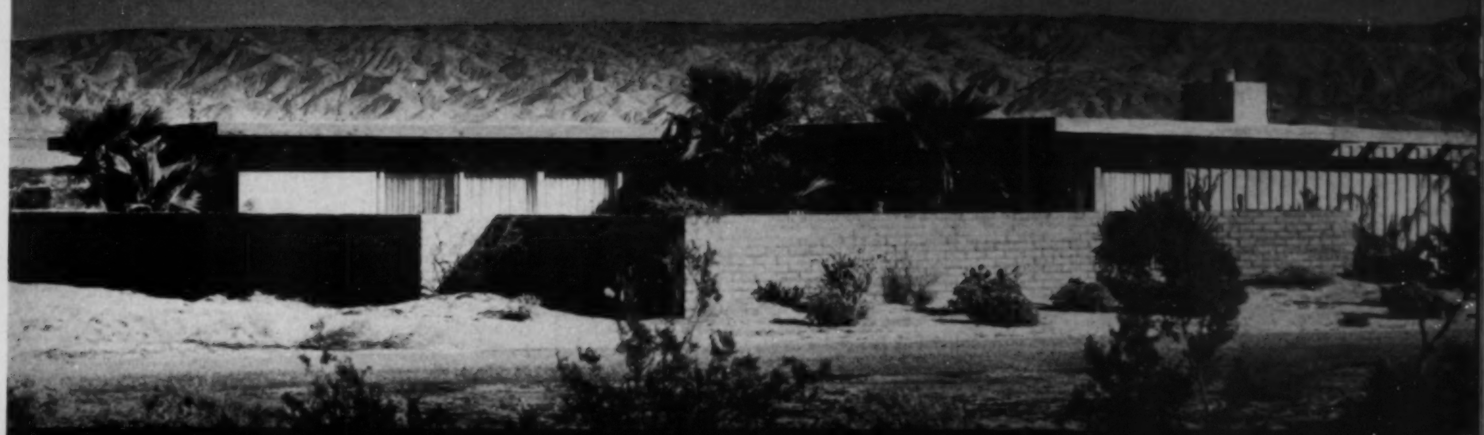
With the noted explorer John Lloyd Stephens he published the first authentic accounts of Mayan culture in their two books on "Incidents of Travel" and in his own book, "Views of Ancient Monuments," all appearing in the mid-1840's. More than a dozen years' study in Rome, Greece, Egypt and the Holy Land enabled him to place his Central American discoveries both in time and in origin with an accuracy supported by later research.

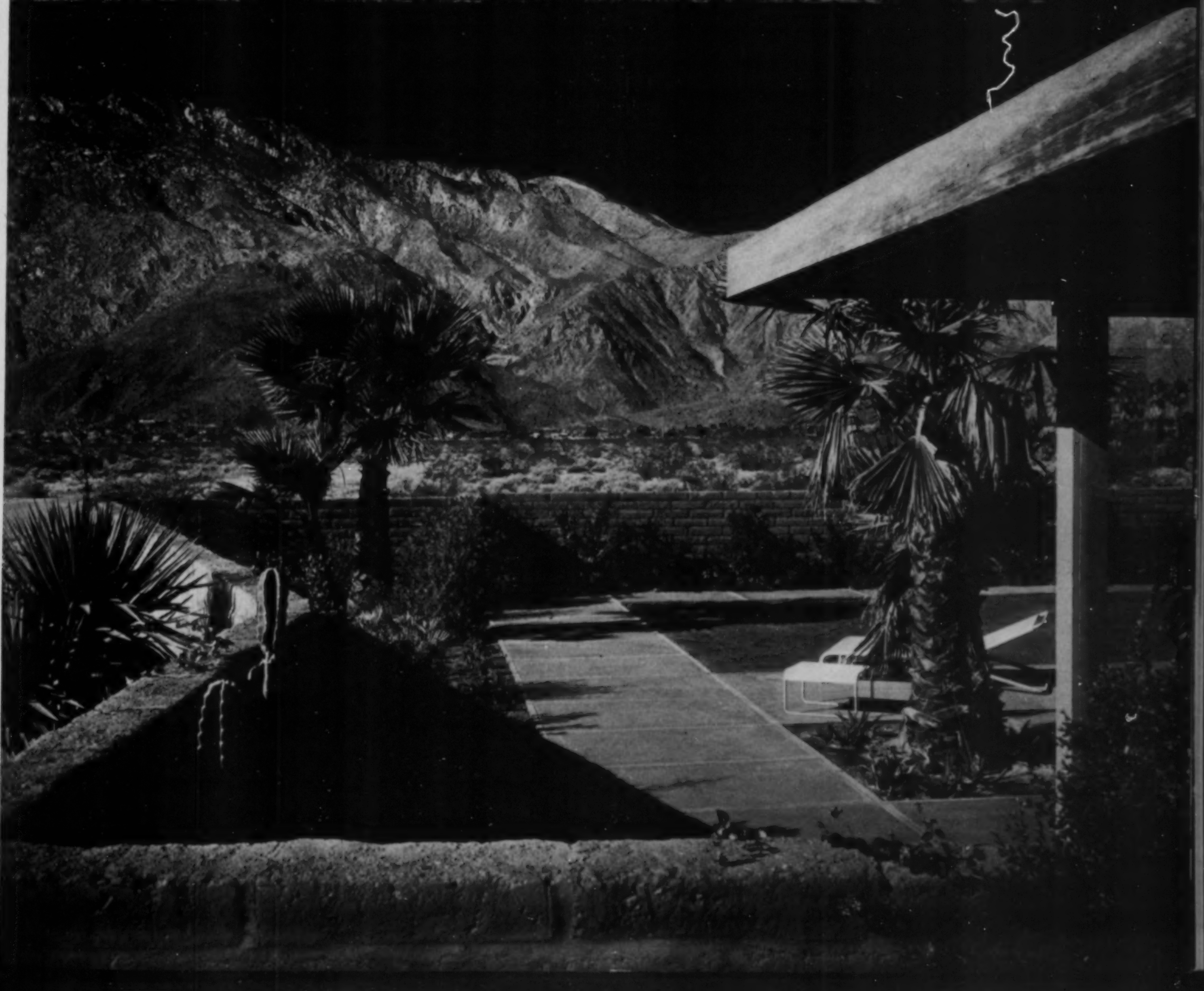
Mr. von Hagen has put together from almost non-existent records an interesting account of this strange figure who also built for New York its first Panorama and for South America its first railroad. Inclusion of the Introduction and 25 lithographs of the "Views" adds a flavor of Catherwood's individuality.

ENVIRONMENT CONTROLS DESIGN

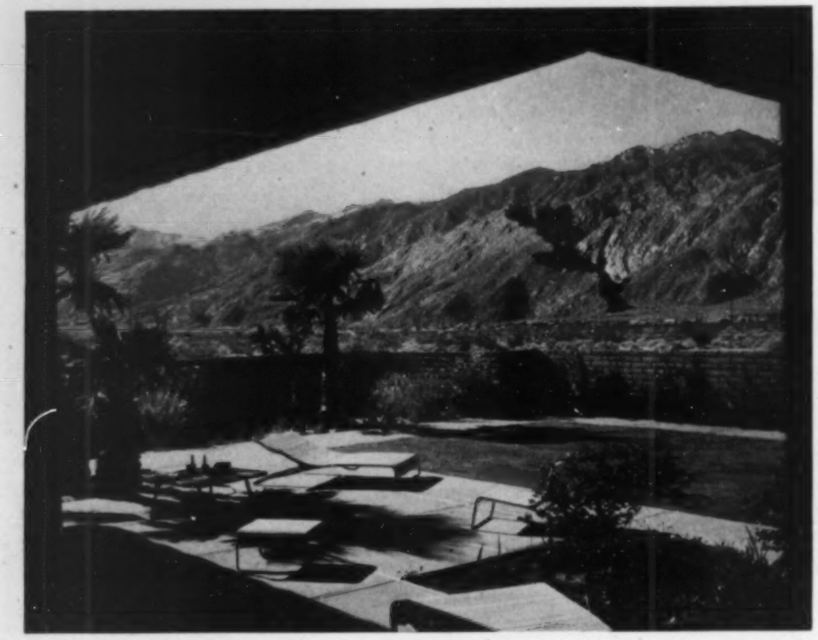
House for Dorothy Levin, Palm Springs, California

William F. Cody, Architect



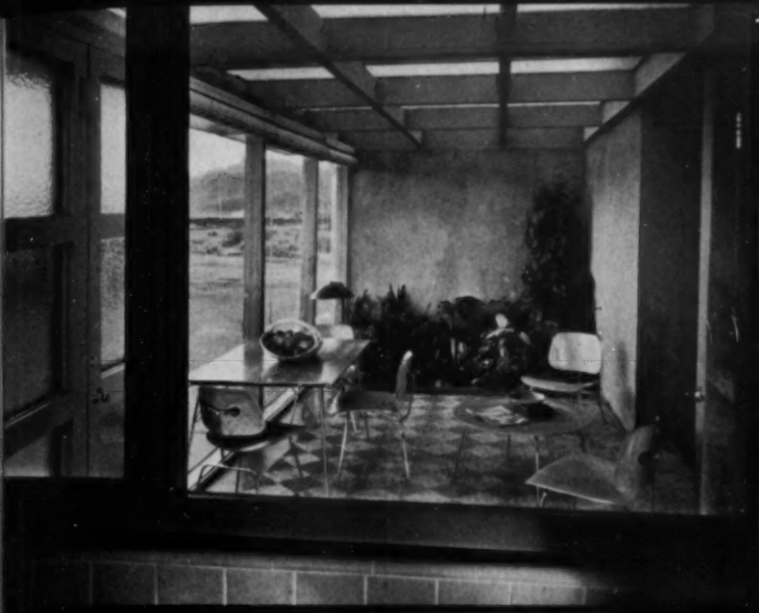


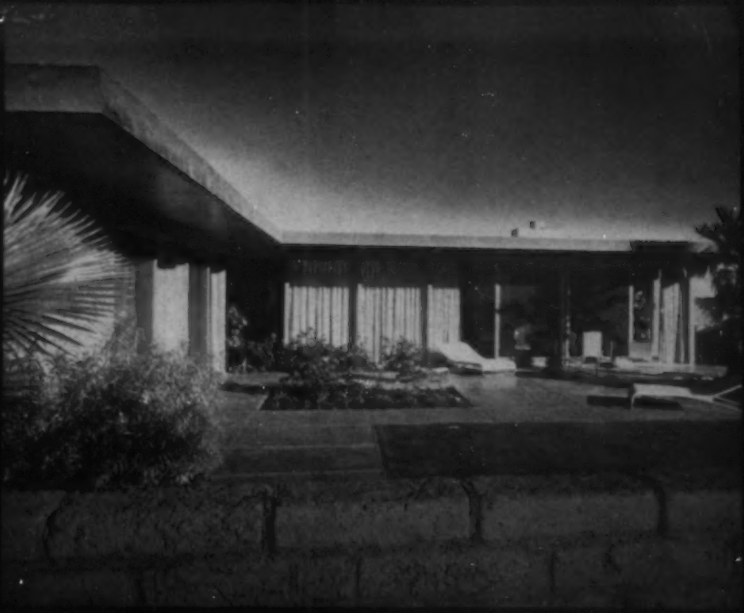
PALM SPRINGS HOUSE . . . *William F. Cody, Architect*

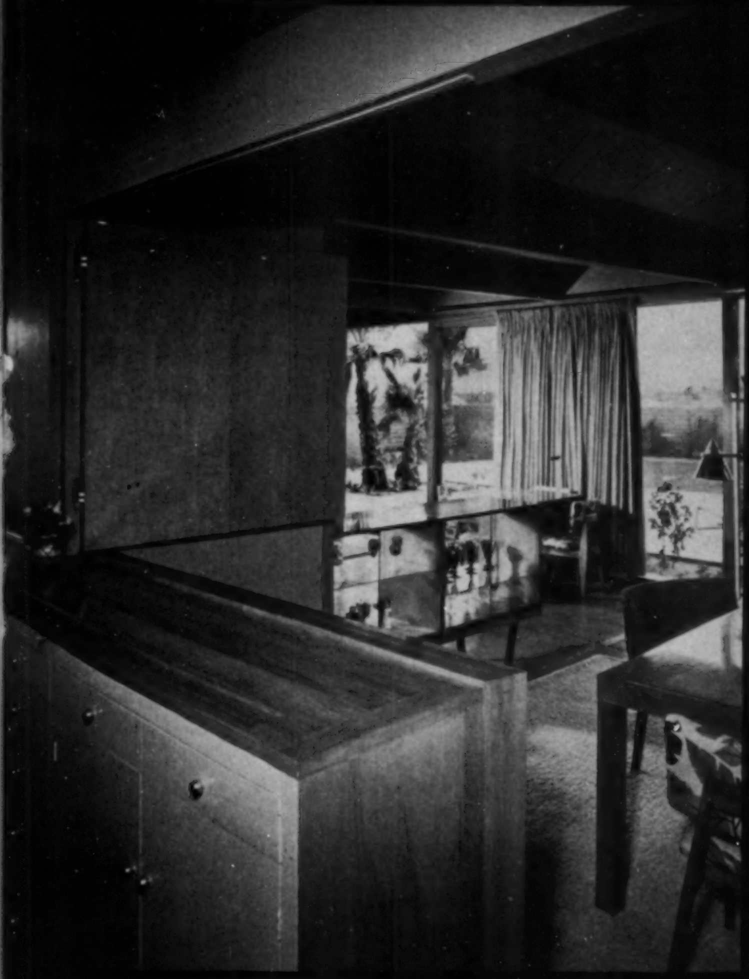


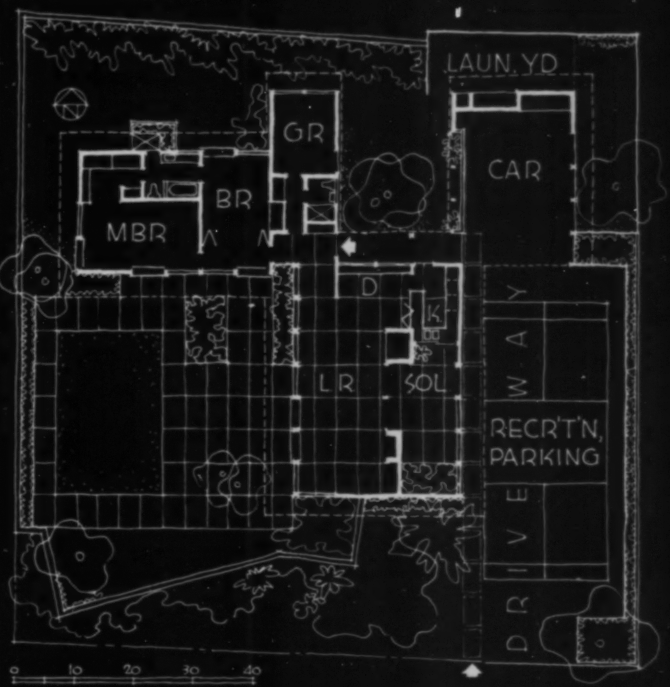
Julius Shulman Photos

Good architecture has always taken into account local topography, climate, customs and economics; however, one seldom finds a building so closely related to its locale as is this house. In a new Palm Springs subdivision, it has a more distant view of the mountains than many of its type in the vicinity, and as the subdivision grows it is bound to acquire more urbanity than will outlying houses. Yet the desert's influence will continue. Protection against extreme temperatures and brilliant light, co-existent with glass walls, and development of the entire lot (not merely the house) as the living unit, were the principal design postulates. Terrace and living areas are laid out on a 3-by-5-ft module, expressed in floor stripping and window mullions.





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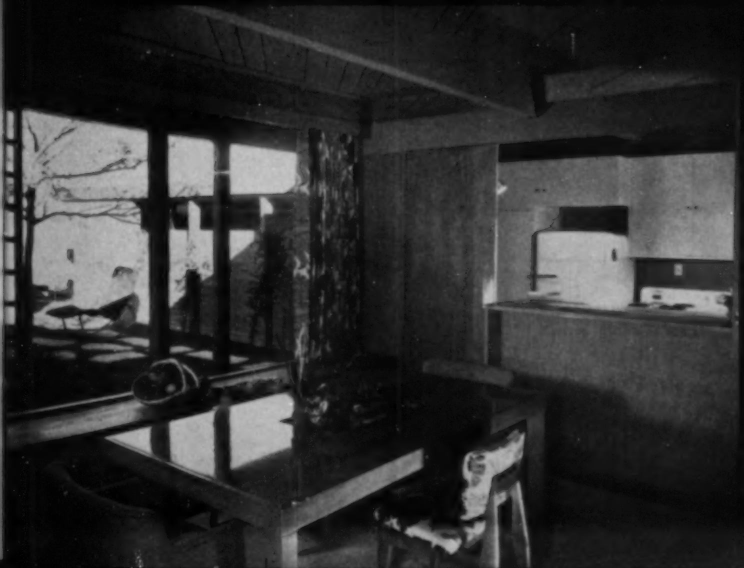
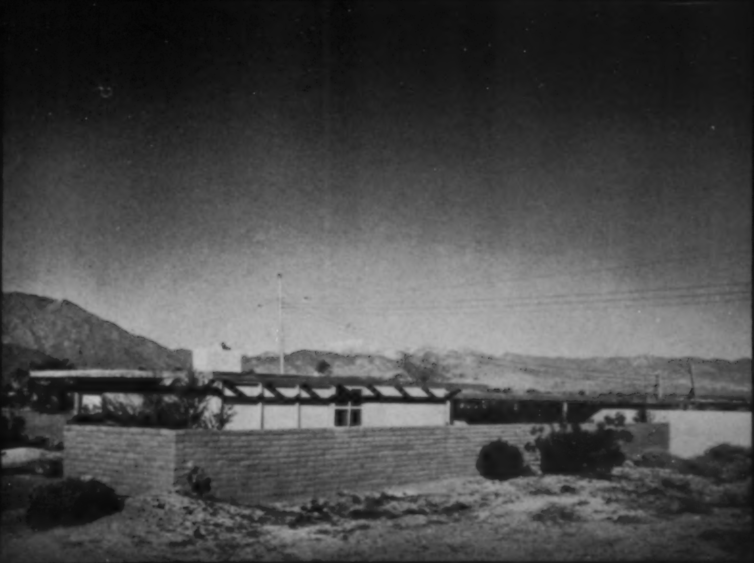
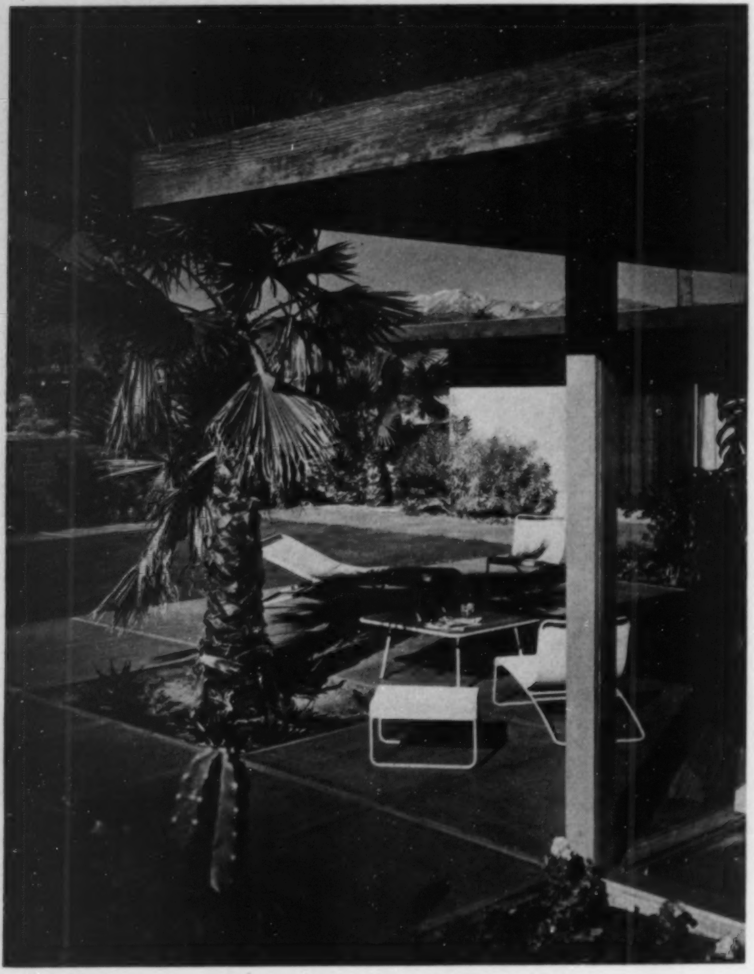
Top of page: glass-roofed solarium; view across walled court to living room. Left: kitchen counter, semi-hidden, may double as a bar, or be closed off with folding doors. Bottom: left, looking from dining area through glazed wall to small court; right, view from east, where badminton court, drive and parking lie between adobe wall and the house proper



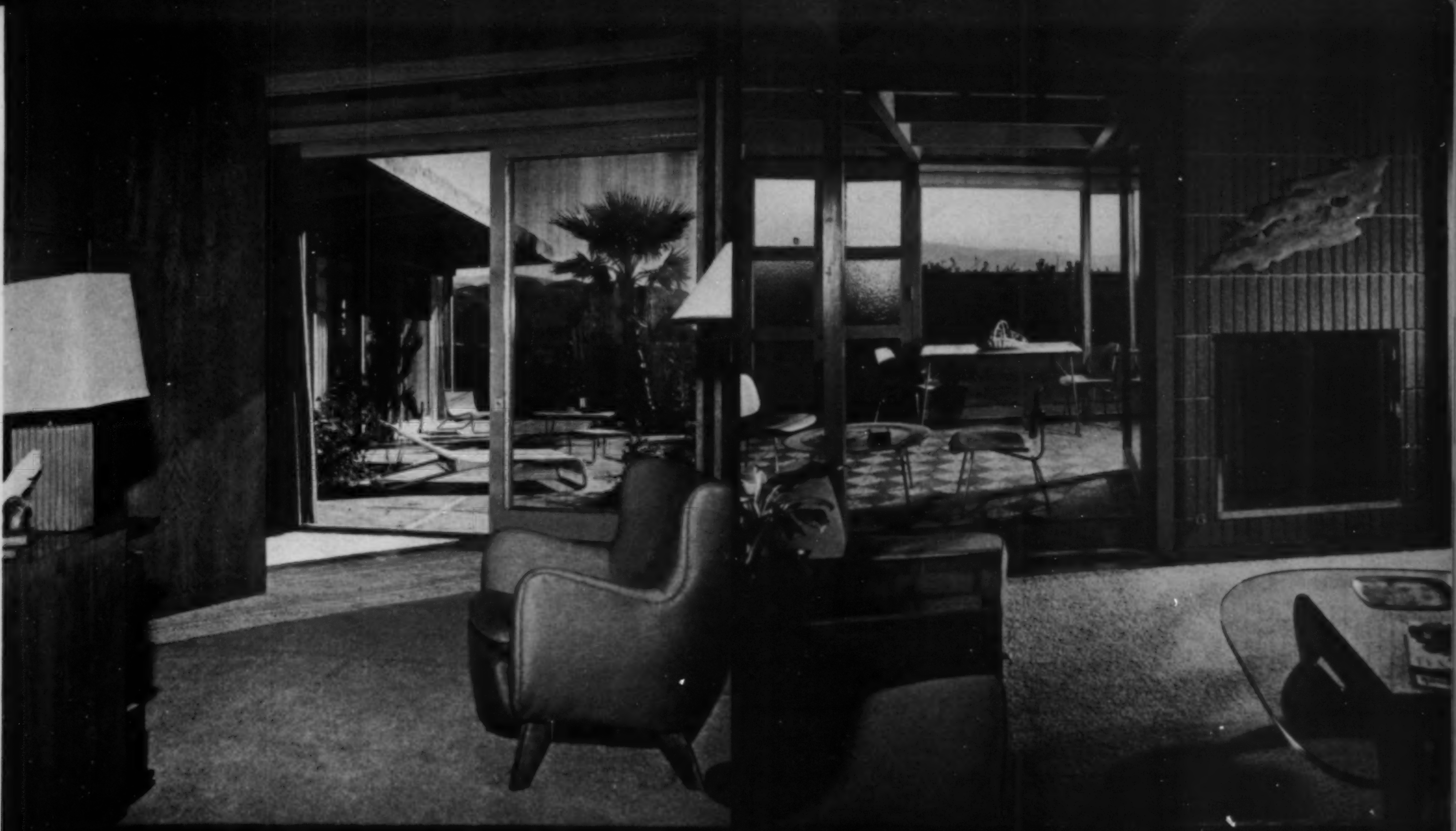


PALM SPRINGS HOUSE . . . *William F. Cody, Architect*

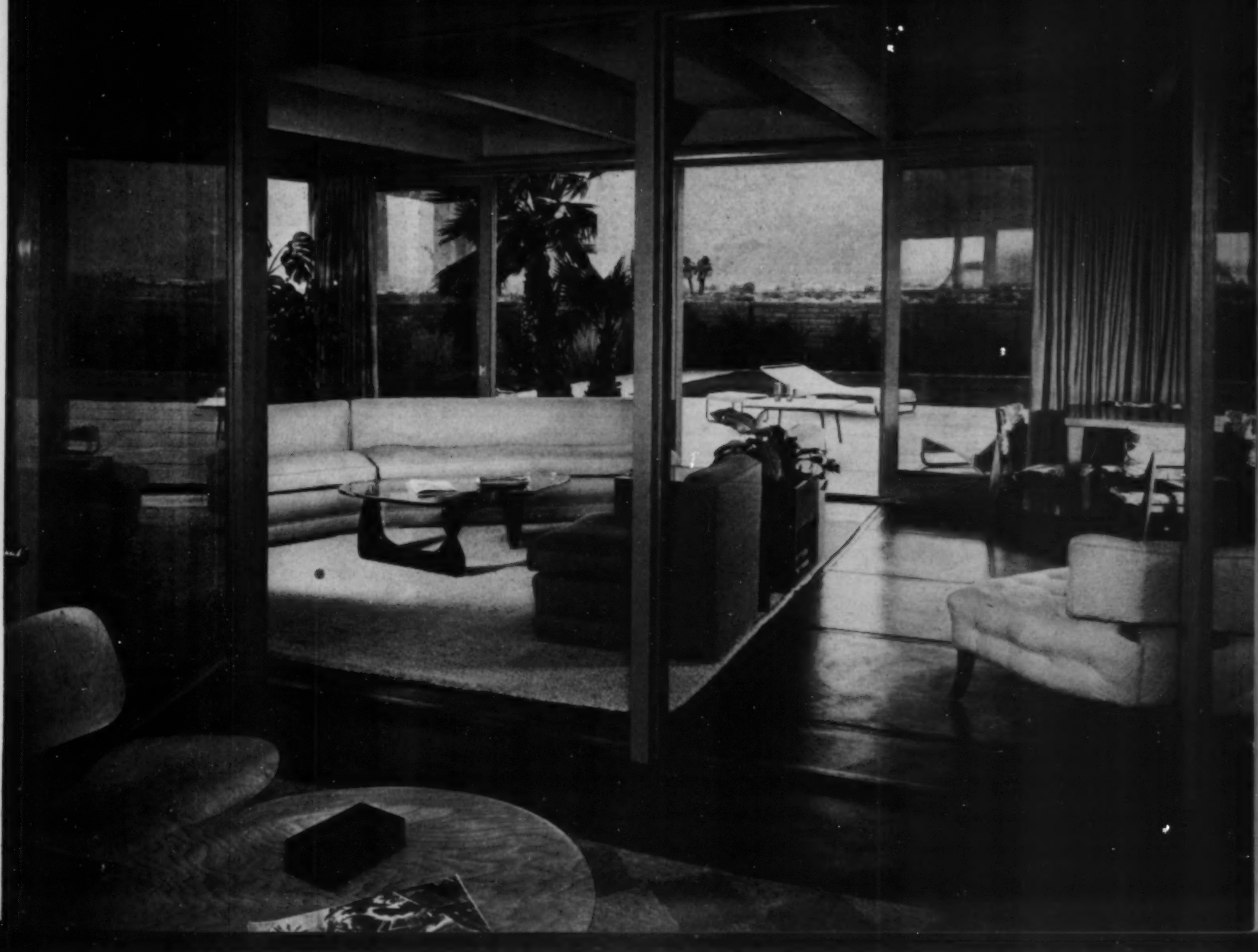


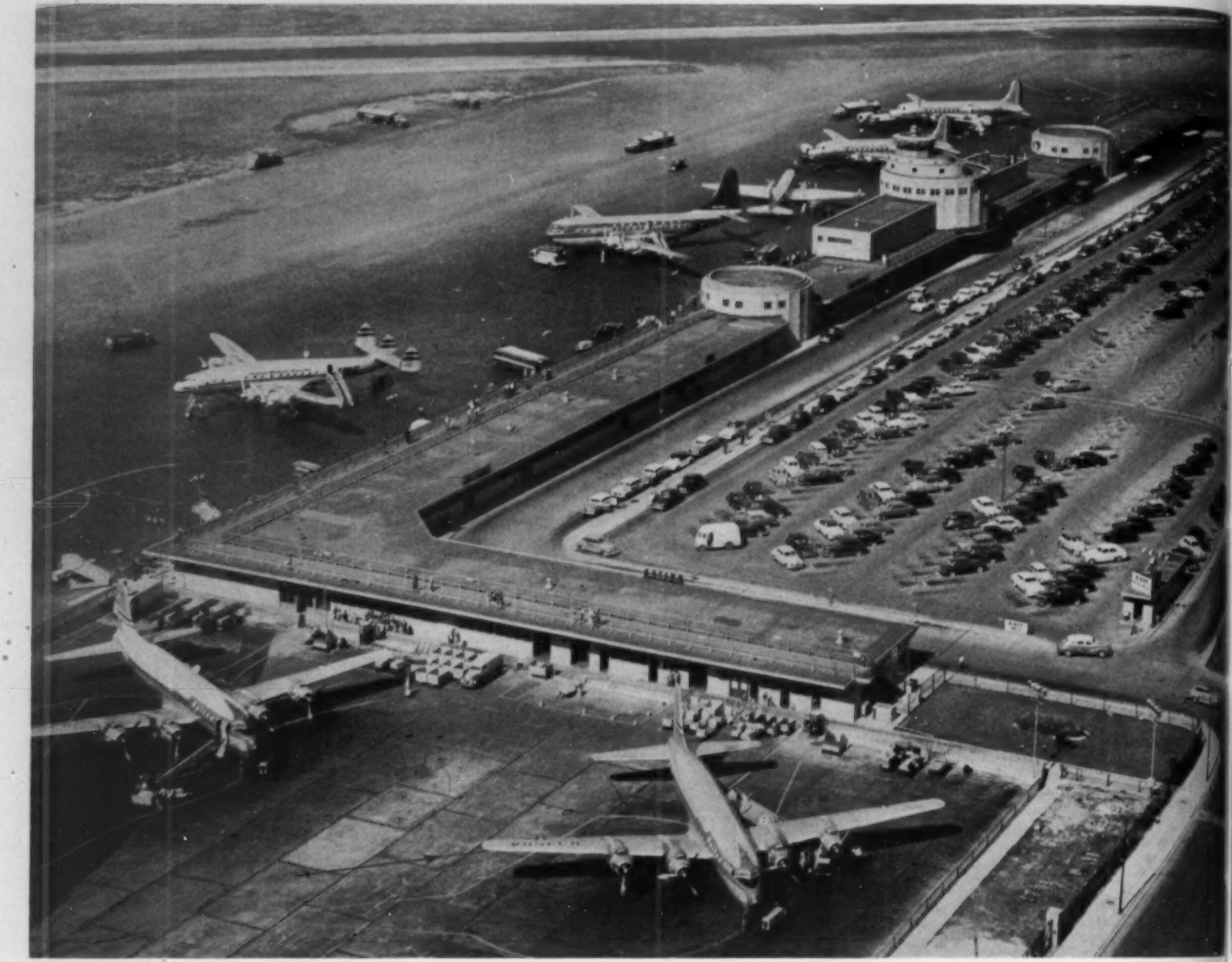
Julius Shulman Photos

From almost any point indoors there is a pleasant vista through adjoining rooms, across the adobe wall surrounding the planted courts, to the San Jacinto Mountains. Interior walls of guest room and kitchen fold so these rooms can be thrown open or closed off. The exterior shower is for use with a possible future swimming pool. House is wood frame; ceiling joists are exposed in main rooms, with glass roof panels in solarium. Roof surfacing is heat-reflecting; insulation is mineral wool; heating, electrical. There is a cooling unit, and windows have awning-type screening to cut heat and glare. Floors are asphalt tile over concrete; terrace paving, cement with redwood strips.



Top, left: guest-room-den wall folds, throwing room open to view of court; right, looking from living room through solarium to drive and badminton court. Notice progression from delicacy and refinement, in the interior, to less carefully finished materials—for instance, adobe wall—where the property meets the desert. Bottom of page: looking the other way, from solarium to living room and courtyard. Planned for all-year, indoor-outdoor living, the house is designed around a 3-foot by 5-foot module; note panels of concrete paving separated by redwood strips



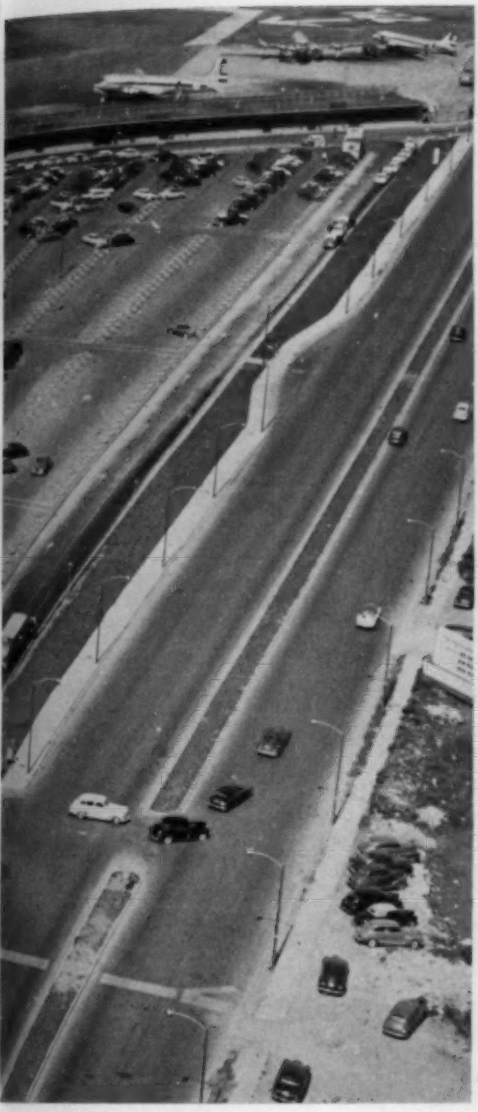


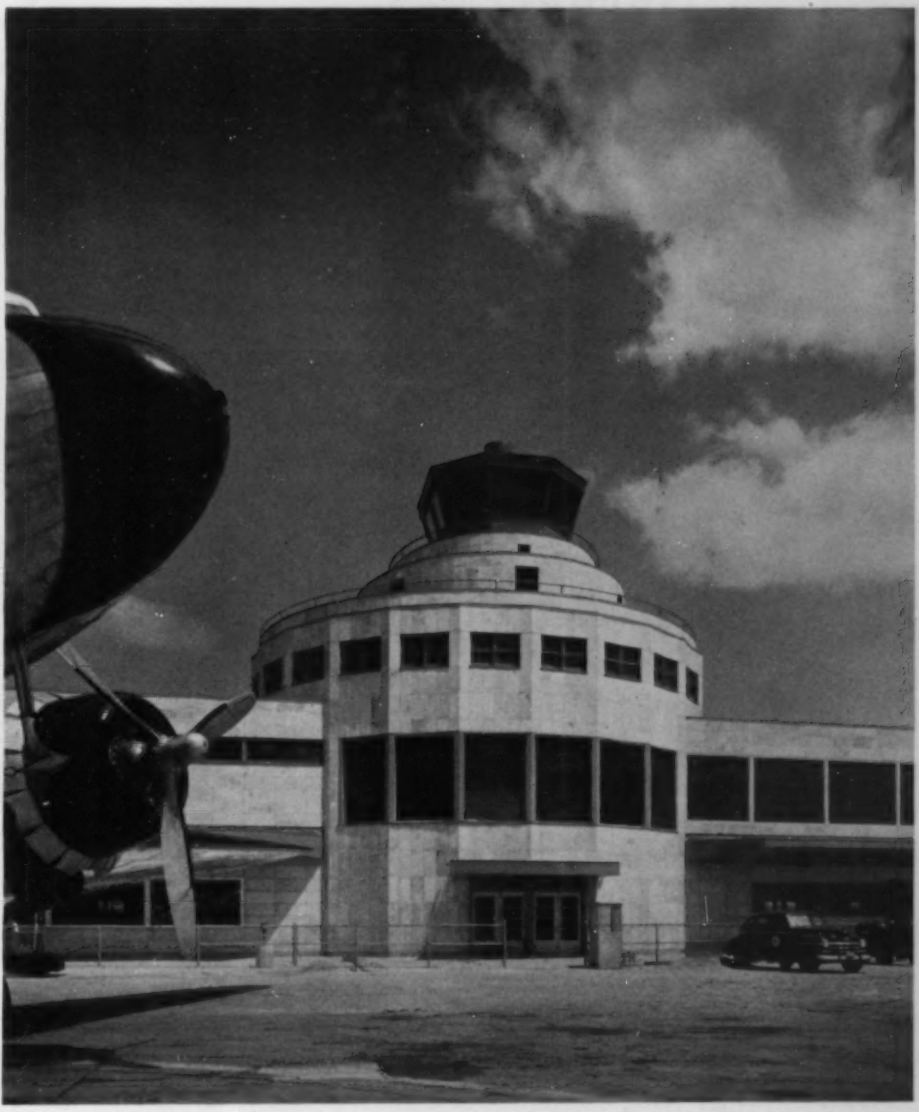
STANDARD UNIT SCHEME VARIED TO SPEED

Paul Gerhardt, Jr.

City Architect

Hedrich-Blessing Studio Photo





Hedrich-Blessing Studio Photo

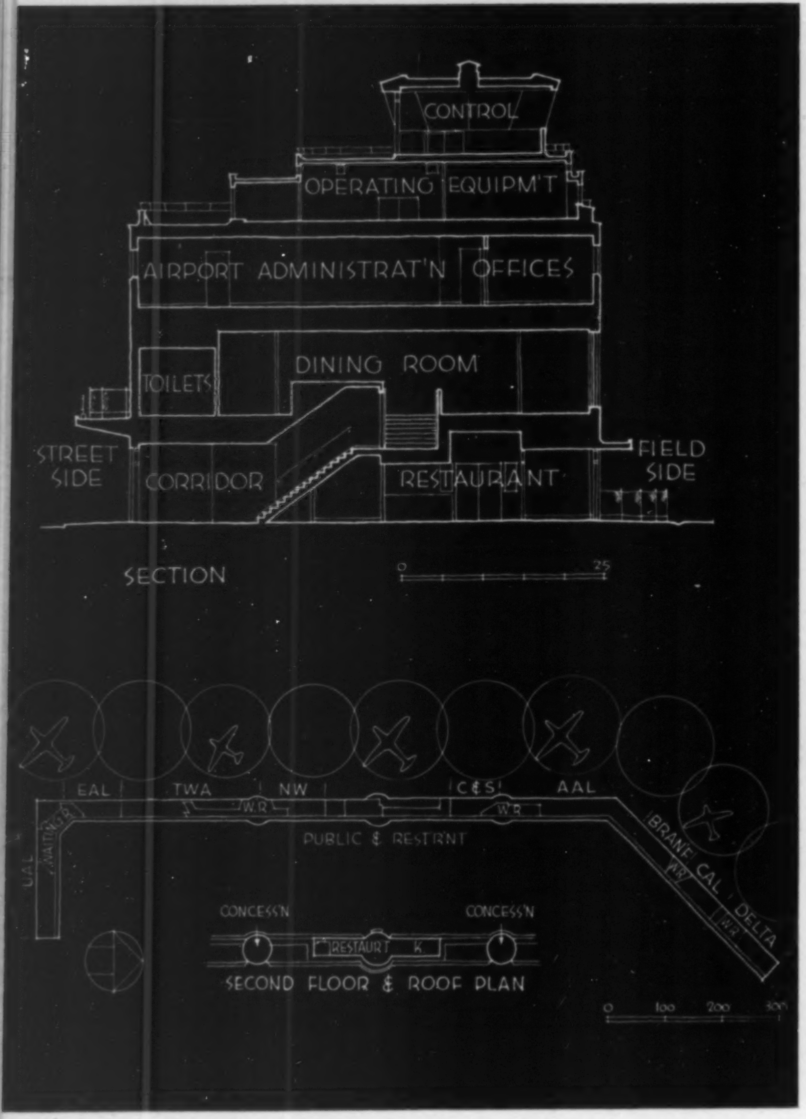
AIRPORT TRAFFIC

Chicago Municipal Airport Terminal

An extended unit scheme helps allay confusion for some 2,500,000 passengers accommodated yearly in the Chicago Municipal Airport Terminal: each air line has individual facilities to serve its planes and passengers. Two lines share each waiting room. A corridor links units to the central block housing administration, operational space and concessions. The two major zones, air and ground transport, are bridged by a narrow plan, permitting short, direct flow of separated passenger and baggage traffic. Casual spectators have good observation posts, removed from operational activities, in a central public space and promenade roof deck.

The building was designed as low cost construction to be amortized within 10 years. Planning for a longer period was deemed unwise: perpetual change is expected in aviation requirements. For flexibility, the steel structure uses a module of 3 ft 4 in. longitudinally, six units to a bay. Exterior walls are buff-tinted concrete slabs, backed by concrete block; roof is poured gypsum.

CHICAGO AIRPORT


CONTROL
OPERATING EQUIPM'T
AIRPORT ADMINISTRAT'N OFFICES
DINING ROOM
TOILETS
STREET SIDE
CORRIDOR
RESTAURANT
FIELD SIDE
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0
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EAL
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AAL
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PUBLIC & RESTR'NT
BRANF
CAL
DELTA
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W.R
CONCESS'N
CONCESS'N
RESTAURT
K
SECOND FLOOR & ROOF PLAN
0
100
200
300

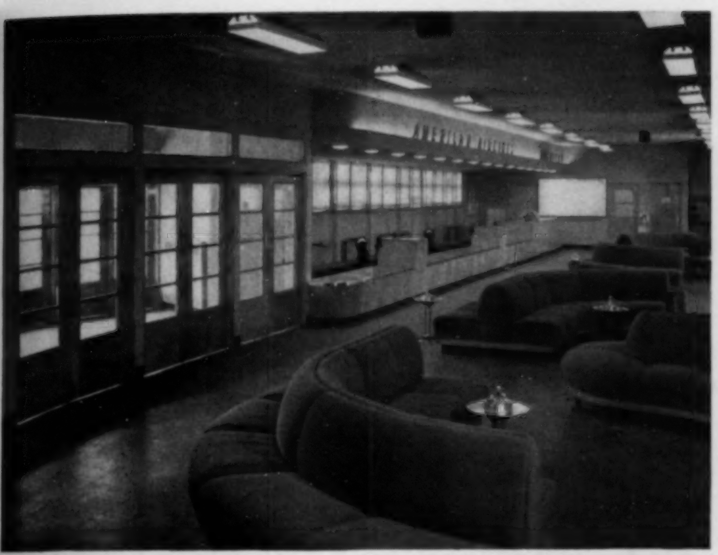
CHICAGO SOUTHERN

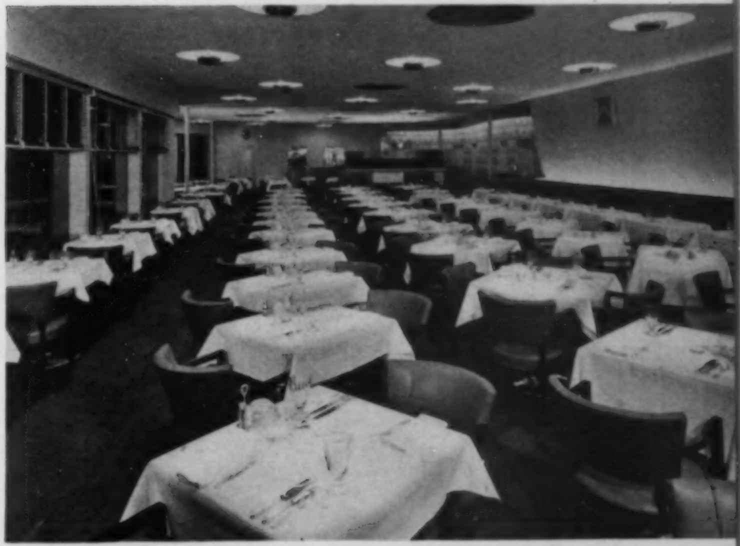
Hedrich-Blessing Studio Photo

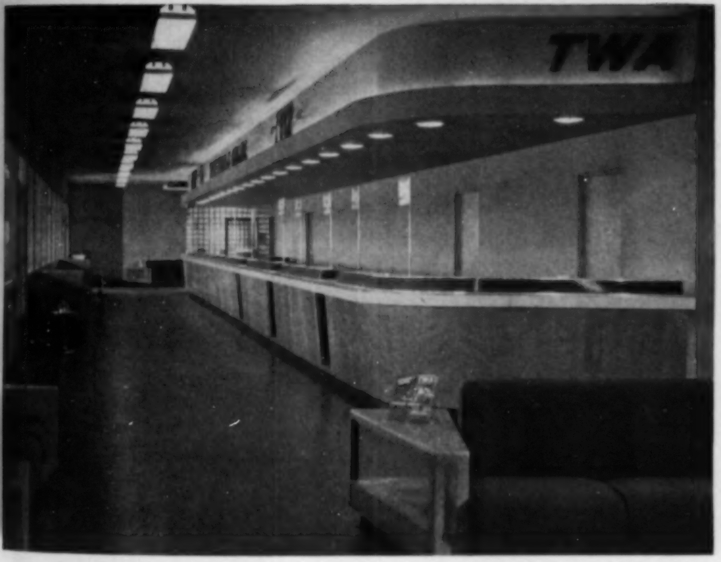
Compact, private working space for airport operation and administration is provided on top floors of central tower. Glazed control room has remote controls for field lights, radar, radio and recording devices. Equipment is on floor below and in basement. Building is 40 ft wide, almost ⅓ mile long; has stations for 15 planes

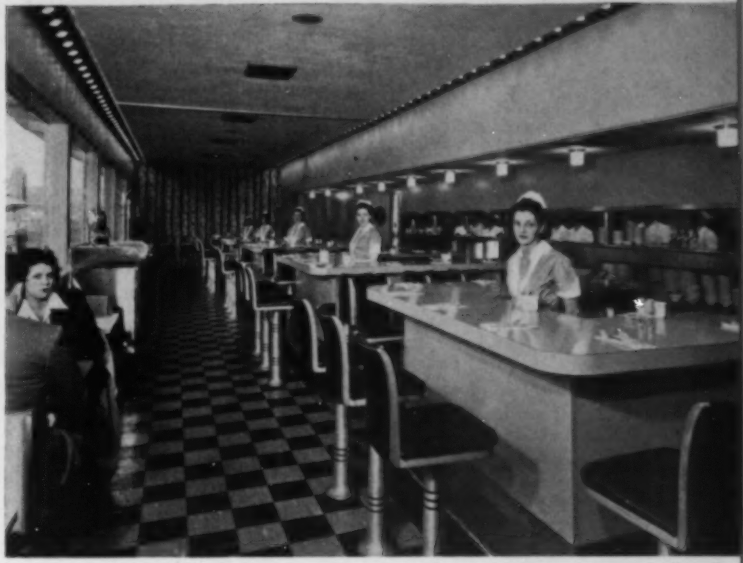
Five waiting rooms (three shown below left) serve nine air lines. Each line has separate baggage rooms, ticket counters and offices. Design standards for furniture, signs, etc., set by air lines and architect. Counter design at top left provides extra baggage space, facilitates traffic. Floors are asphalt tile, ceilings acoustic plaster. Partitions are gypsum tile and plaster, built free of structure for easy change

Hedrich-Blessing Studio Photo









Hedrich-Blessing Studio Photo

Concessions help defray airport operating costs. Revenue is derived from parking meters, promenade deck, lockers, clocks and, above all, eating facilities. Main dining room overlooks field (above right), shares second floor of central tower with kitchens. Restaurant on first floor (below right) is served by dumbwaiters, remains open 24 hours a day. Refreshment stands are in flanking towers on promenade deck. Refrigerators and locker rooms are in basement

REDEVELOPED WITH A FLAIR

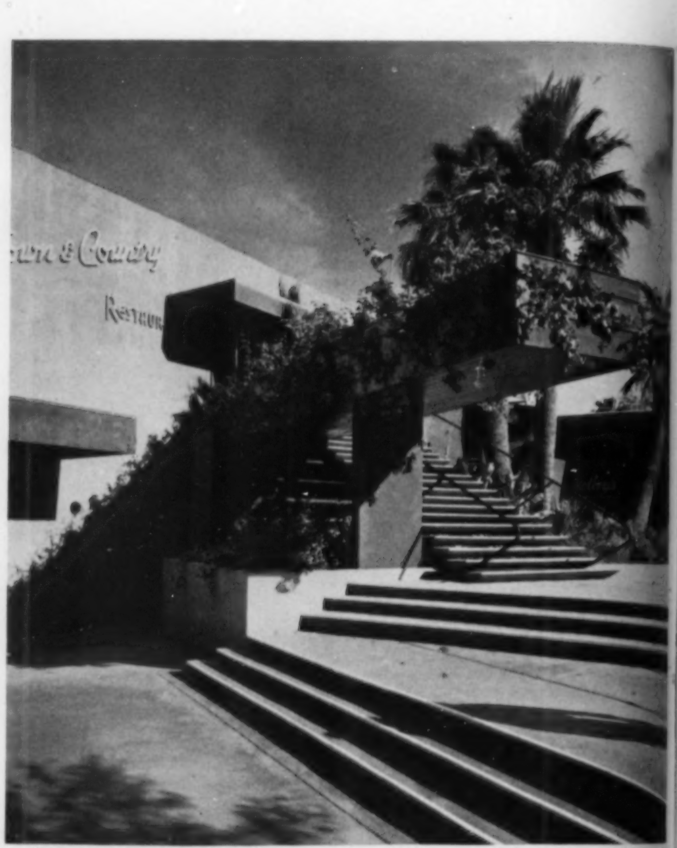
First Step in Scheme for Palm Springs Corp.,
Palm Springs, Calif.

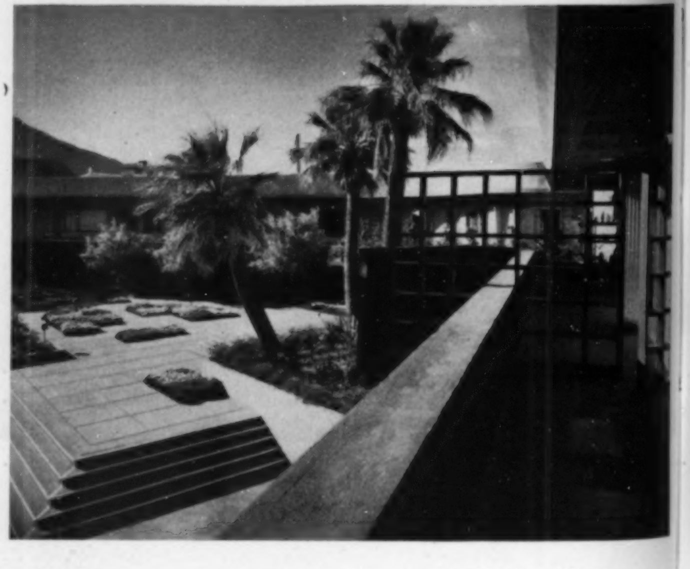
A. Quincy Jones, Jr., Architect;
Paul R. Williams, Associate

In this restaurant's first season, customers were so successfully drawn into the interior court and surrounding shops that the owners of the property are now trying to speed up the remodeling of the entire block. As the photographs on these four pages show, considerable flair and flavor were used to good effect as a customer lure.

The new restaurant building was the first step in the remodeling project. Its design was complicated by the fact that the existing foundation and basement had to be used, and also by the leases already signed with four different types of tenant. The building houses the Town and Country Restaurant, the offices of "The Desert Sun," Palm Springs' newspaper, and three shops, plus the offices of the Palm Springs Corporation, owners of the property, and four small apartments. Exterior walls are cement plaster and redwood; interior walls are plaster, redwood and Roman brick; ceilings are acoustically treated. Framing is steel.

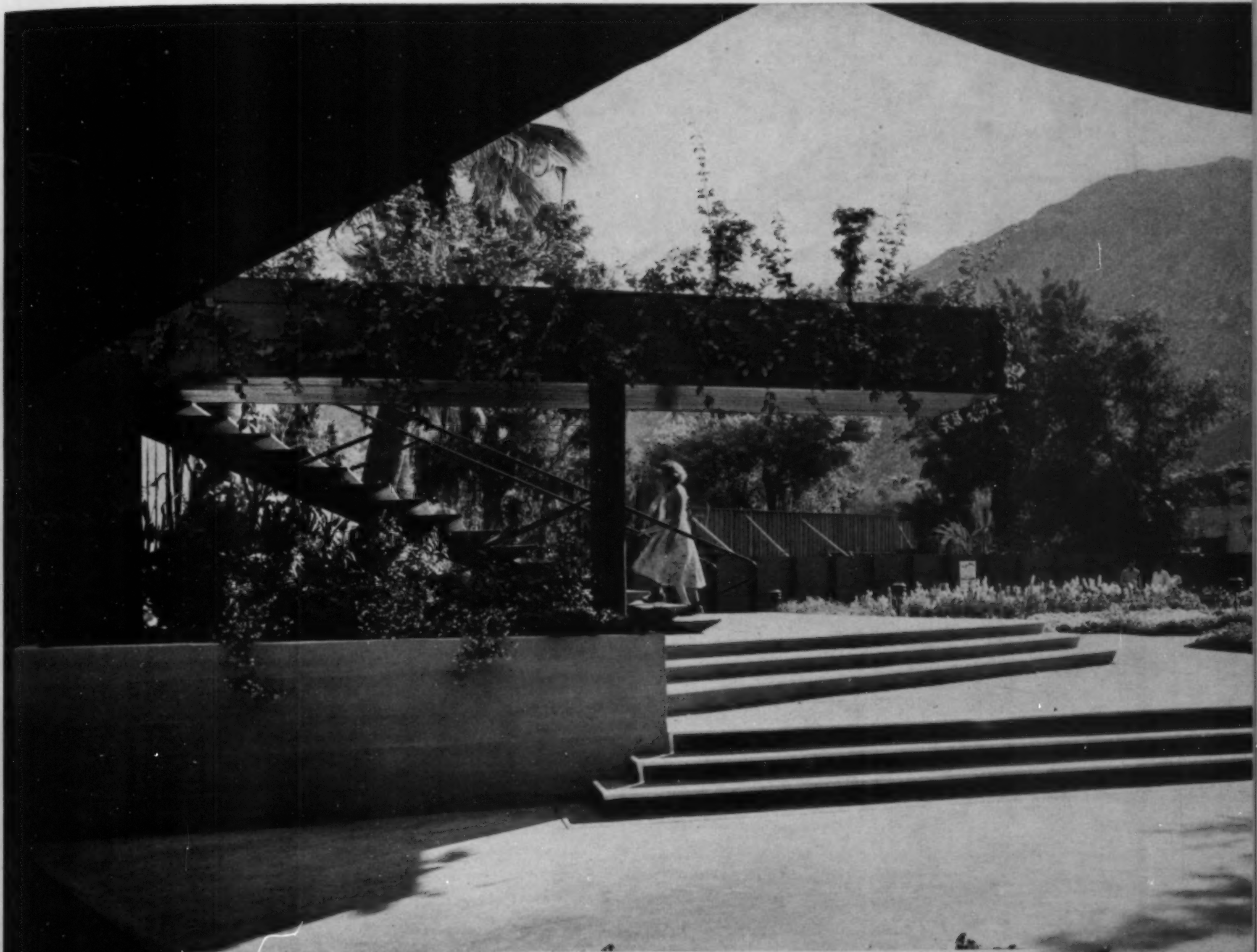
Completion of the entire project originally was expected to take two or three years and called for a careful construction schedule. To avoid even brief interruption of business, as one section is finished, a tenant from an untouched section is moved into it to make way for further remodeling or rebuilding.

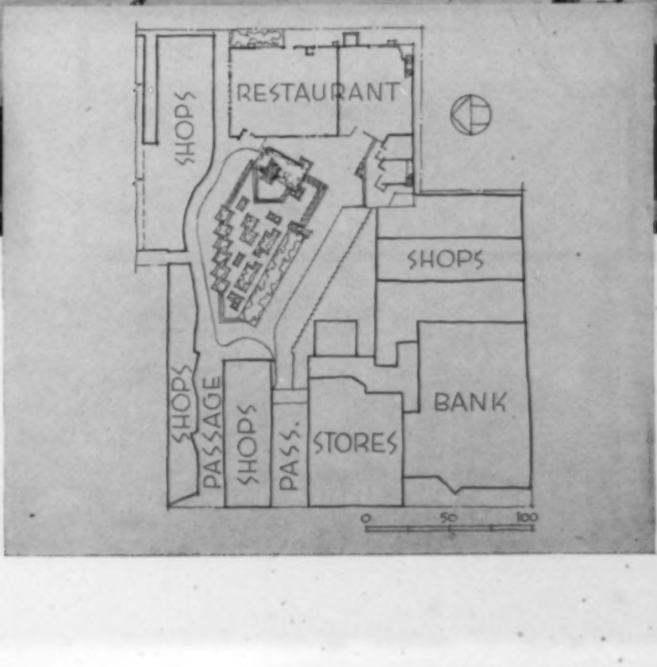




Julius Shulman Photos

Spark of the redevelopment scheme is the atmosphere-packed patio leading to the Town & Country Restaurant. The restaurant building, first one completed under the plan, houses also offices and shops, and has four small apartments on second floor (see plan, next page)

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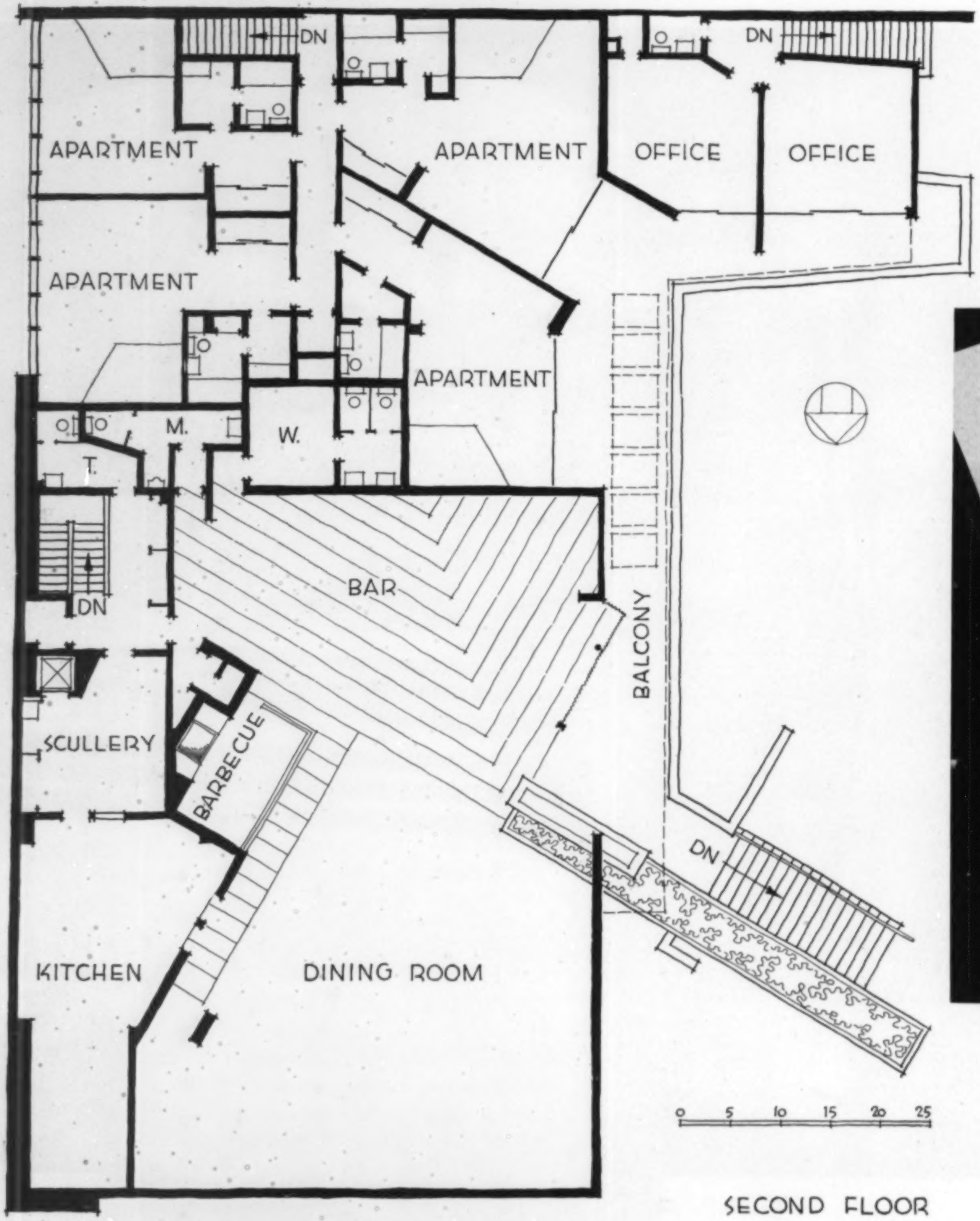
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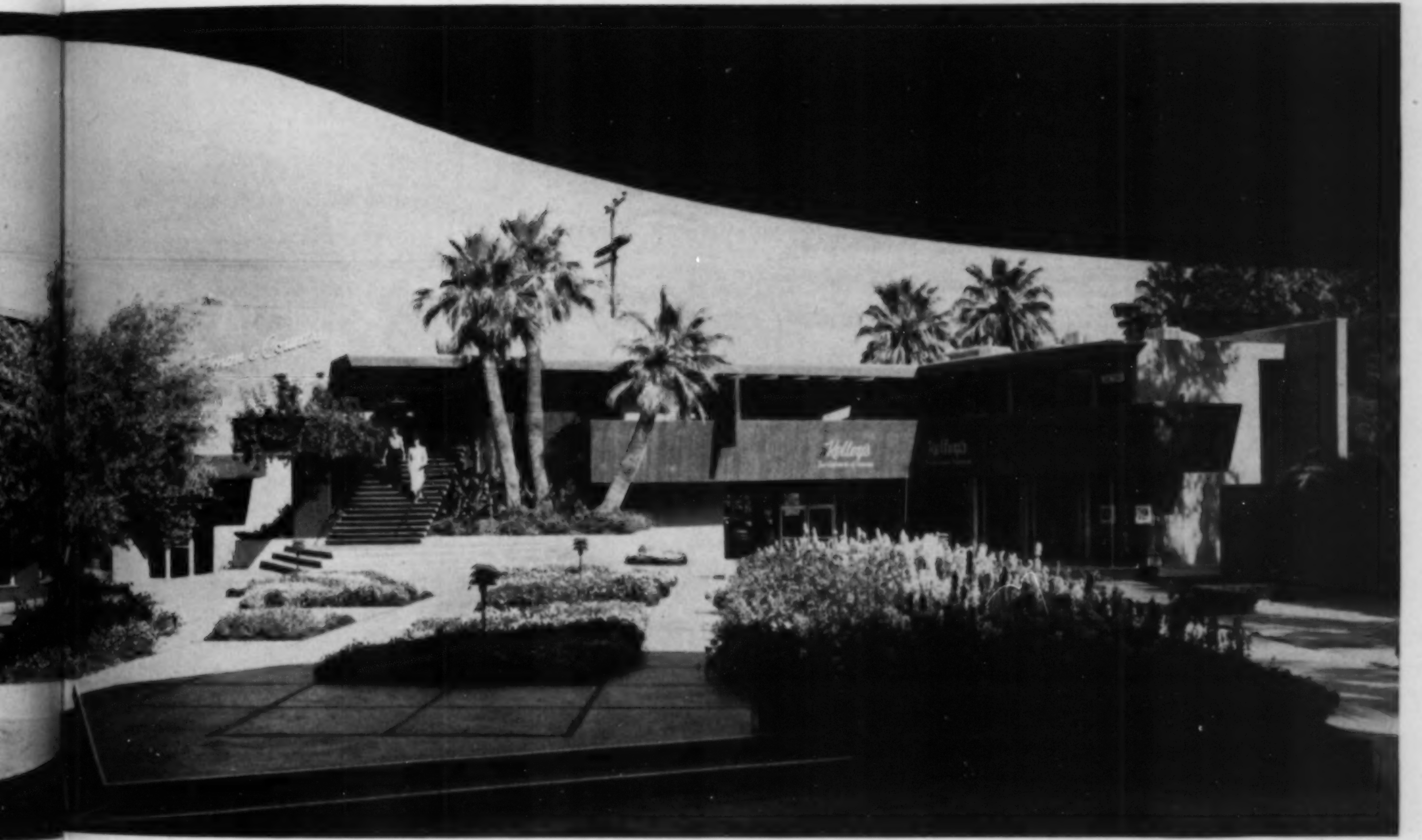
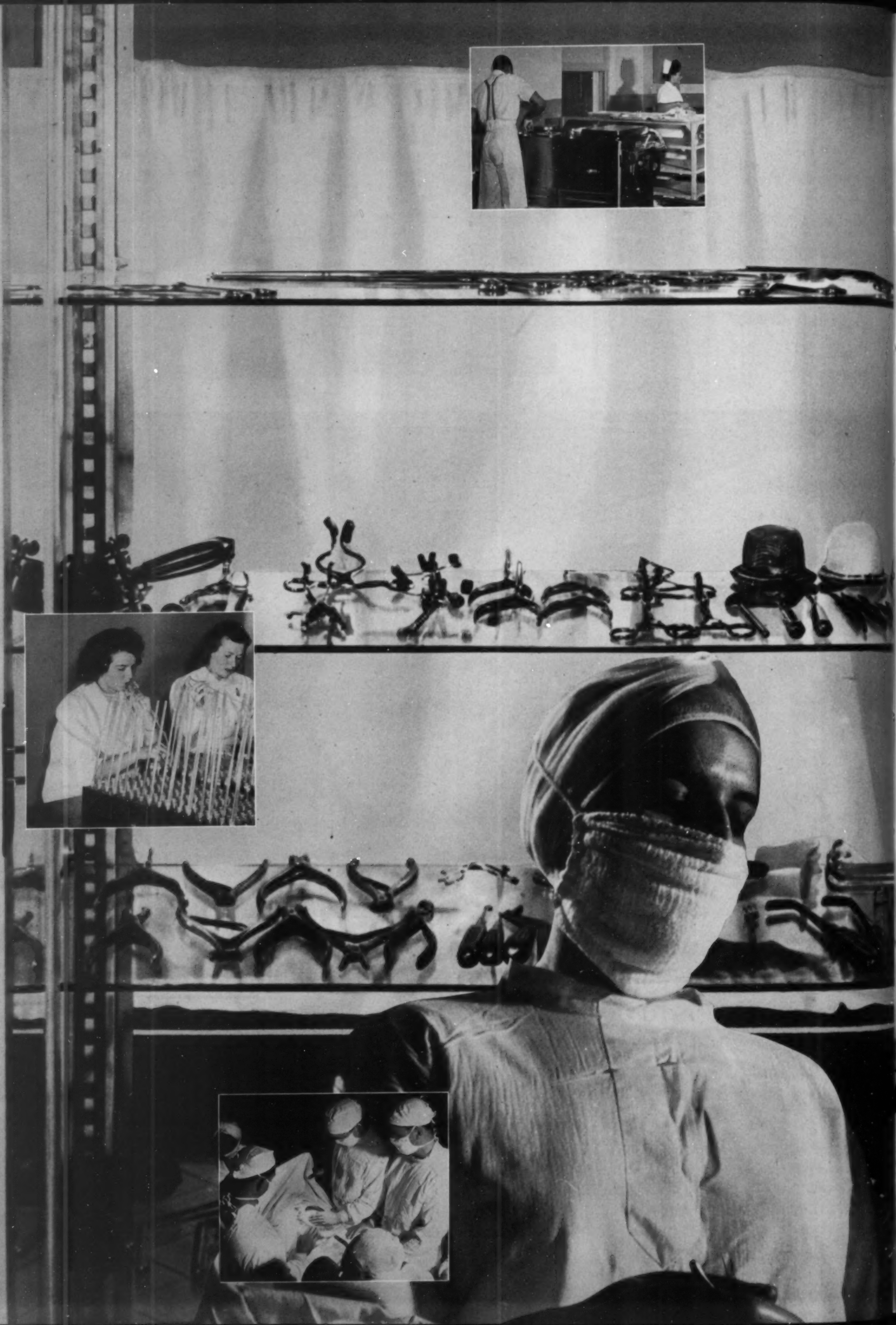
W.
T.
DN
BAR
BALCONY
SCULLERY
BARBECUE
DN
KITCHEN
DINING ROOM
0 5 10 15 20 25

SECOND FLOOR

The second-floor apartments have their own entrance from Indian Avenue along the south side of the block, but shops and restaurant face the court (opposite page). Commercial tenants are varied, including the local newspaper, and three different types of store



Julius Shulman Photos



HOSPITALS

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NO. 158

DOUBLING the amount of federal funds for hospital construction — one of the final authorization acts of the Congress last fall — makes hospitals perhaps the most important of all planning assignments now before architects and engineers.

It means not only more hospitals, of all kinds, in the future; it also means more architects designing hospitals. What was once considered a fairly specialized task for designers is now work for any well organized architectural office, as America becomes increasingly determined to bring better hospital service and medical care to large city and remote area alike. Doing a hospital of course is still a highly intricate assignment, made more so by each advance in medicine. At the same time more and more data are available to planners. The careful basic research of the architectural staff of the U. S. Public Health Service, under the direction of Marshall Shaffer, has put before the design profession a valuable fund of planning information. (See the following studies in ARCHITECTURAL RECORD: *"Elements of the General Hospital," June 1946; "Type Plans for the General Hospital," January 1948; "Public Health Centers," July 1942; and the Building Types Study on Hospitals, May 1949.*)

In 1950 the RECORD will step up its coverage of hospital design. This current Study deals largely with special types of hospitals and other health facilities, though one general hospital is also included, and others will be presented throughout the year.

It is worth noting that the more special types of hospital may be expected to appear more frequently in the lists of projects receiving federal aid. While the early concentration was on the acute general hospital and the smaller health facilities for rural areas, the Hill-Burton Act is quite broad. It is to be expected that the increased allotments will reach further into the needs for facilities for cancer, T.B., mental illness, and for buildings for public health work and for medical research.

U. S. Public Health Service photos

Under terms of the new legislation, federal grants to states are increased from $75 to $150 millions annually, and the period during which allotments can be made is extended to June 30, 1955. In addition a new formula has been developed which permits a federal contribution ranging up to 66.6 per cent of the total construction costs for new hospitals as against 33.3 per cent under the original law. The new law provides also for federal grants totaling $1,200,000 a year for five years for research programs looking toward coordination and improvement of hospital services.

Surely the new law speaks well of the concept and administration of the original hospital program, which took shape in the Hill-Burton Act of 1946. Whatever the fears about the "welfare state," there have been no agonized screams about the program for improving the country's health facilities. From federal offices to volunteer committees in outlying communities the program has won cooperation and interest.

Architects have responded in the planning, in the committee work, and also in the basic study. Large attendance at the Southern Conference on Hospital Planning and the New England Regional Seminar on Hospital Planning sponsored by the A.I.A. have had their share in sharpening the techniques of hospital planning. Meanwhile similar groups of the American Hospital Association, the American Medical Association, and the new American Association of Hospital Consultants have been researching both the technical problems of planning and the procedure of hospital programming, for better harmony between architects and consultants. Such efforts will add rapidly to the literature on hospital planning, and will insure wise spending of the immense sums available for extending health facilities.

— *Emerson Goble*

TYPE PLANS FOR STATE PUBLIC HEALTH LABORATORY

FEDERAL SECURITY AGENCY

Public Health Service
Division of Hospital Facilities

STATE health laboratories have steadily increased their activities in recent years, usually in facilities that were outdated and inadequate. The need for new buildings has become so apparent that two suggestive type plans have been developed through collaboration between the Conference of State and Provincial Public Health Laboratory Directors and the Division of Hospital Facilities of the Public Health Service.*

These plans are intended merely to assist the laboratory director and his architect in formulating a sound basic program for the solution of their particular problem. They serve also to explain the relationship of

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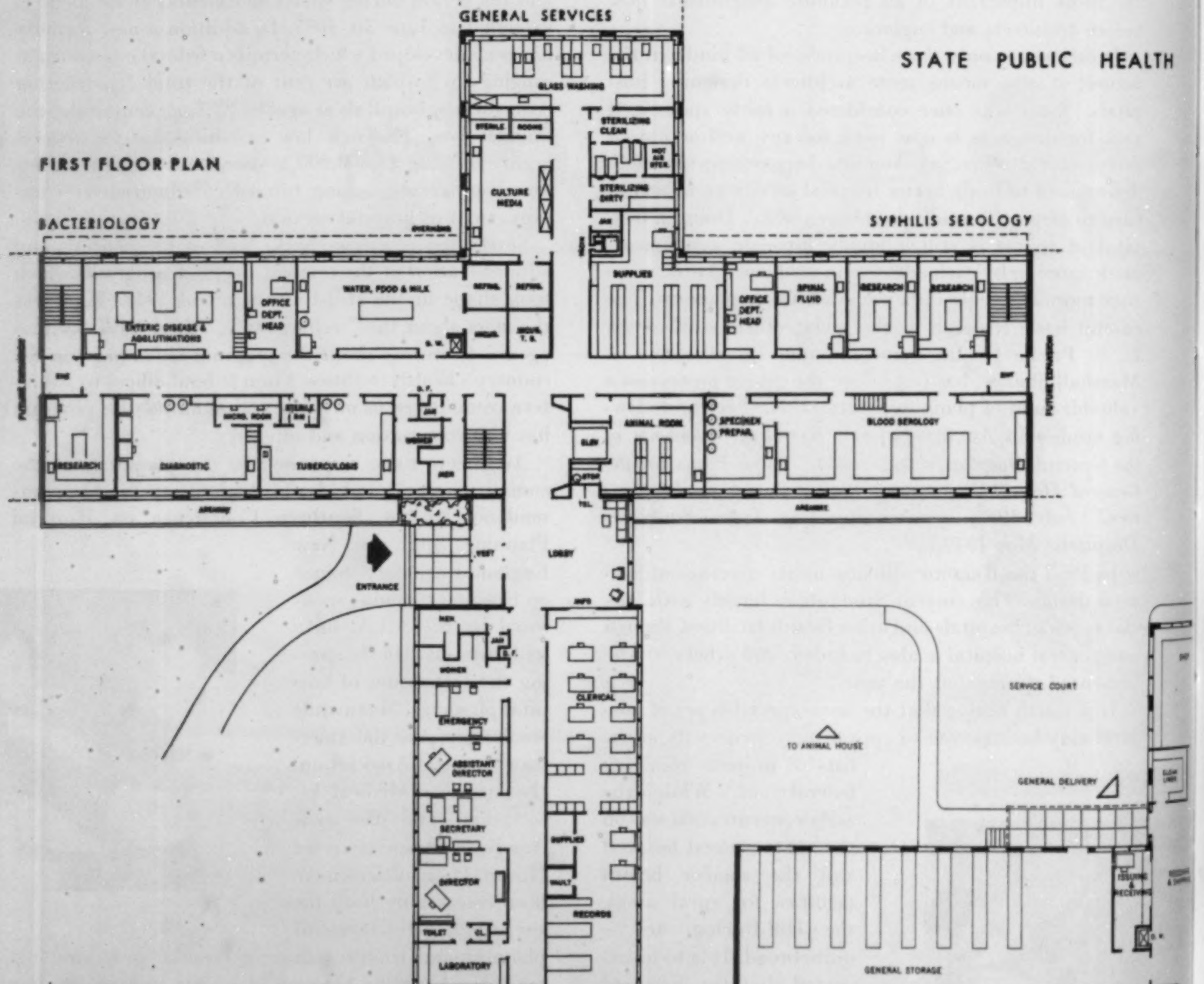
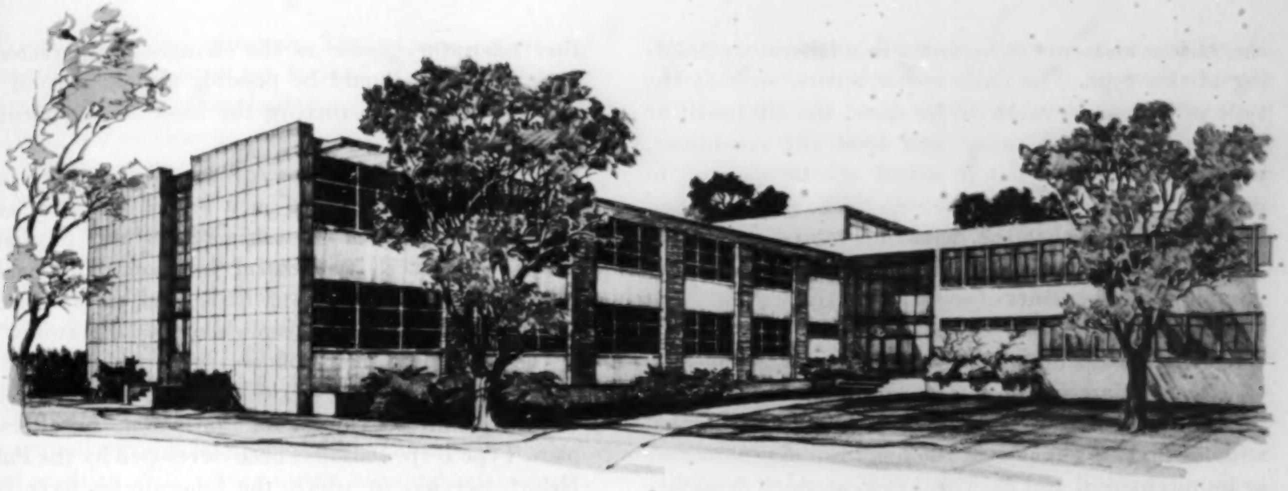
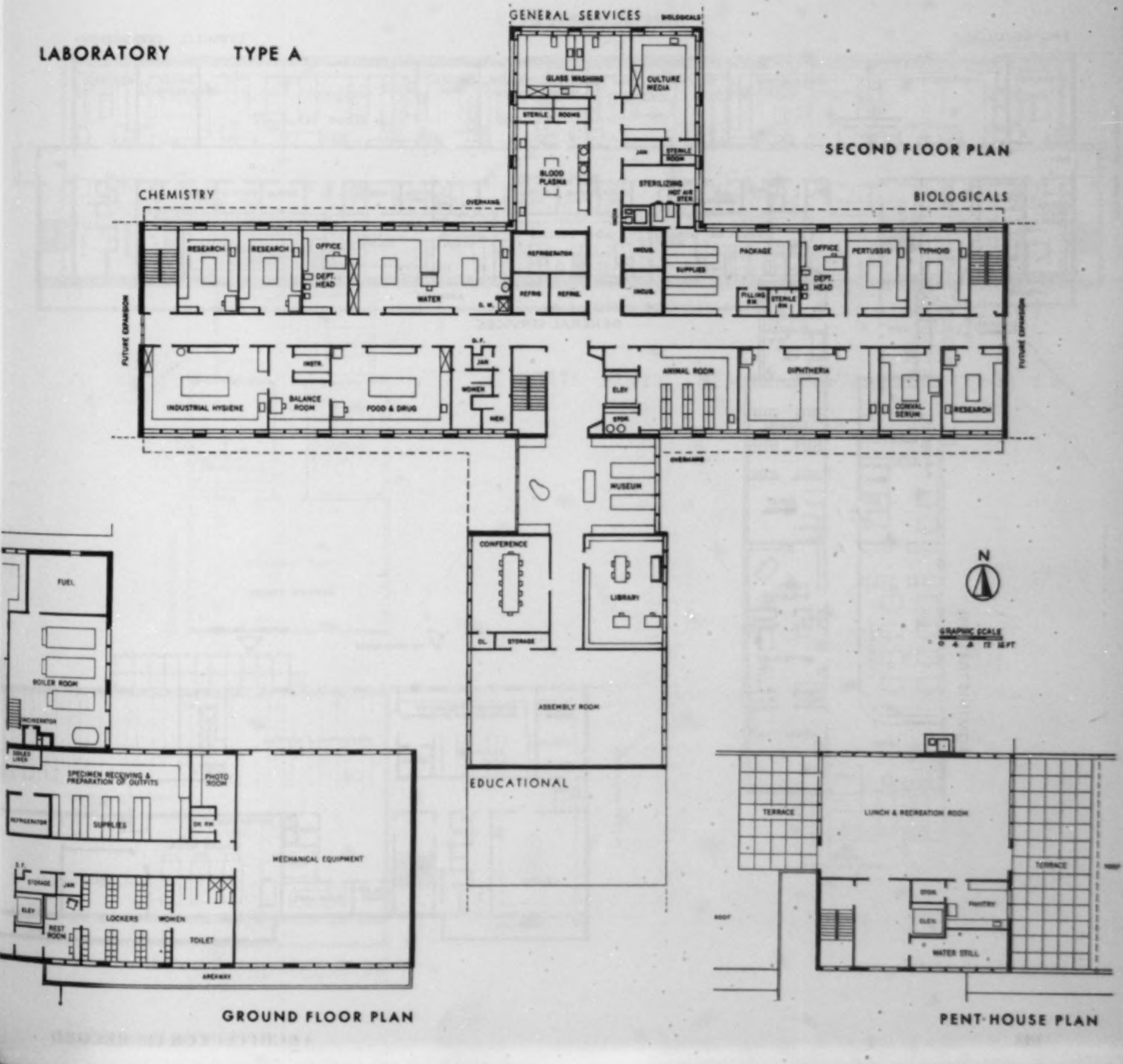
* *Acknowledgement is made of the assistance of Dr. Seward E. Miller, Chief, Laboratory Div., Communicable Disease Center, Atlanta, Ga.*

STATE PUBLIC HEALTH


GENERAL SERVICES
GLASS WASHING
STERILE ROOMS
STERILIZING CLEAN
HOT AIR STER.
STERILIZING DIRTY
CULTURE MEDIA
JAN
FIRST FLOOR PLAN
BACTERIOLOGY
OVERHANG
ENTERIC DISEASE & AGGLUTINATIONS
OFFICE DEPT. HEAD
WATER, FOOD & MILK
REFRIG.
REFRIG.
INCUB.
INCUB. T. B.
D. W.
FUTURE EXPANSION
RESEARCH
DIAGNOSTIC
MICRO. ROOM
STERILE RM
TUBERCULOSIS
D. F.
JAN
WOMEN
MEN
AREAWAY
ENTRANCE
VEST
LOBBY
ELEV
STOP
TEL.
INFO
SYPHILIS SEROLOGY
SUPPLIES
OFFICE DEPT. HEAD
SPINAL FLUID
RESEARCH
RESEARCH
ANIMAL ROOM
SPECIMEN PREPAR.
BLOOD SEROLOGY
FUTURE EXPANSION
AREAWAY
MEN
JAN
D. F.
WOMEN
EMERGENCY
ASSISTANT DIRECTOR
SECRETARY
DIRECTOR
TOILET
CL.
LABORATORY
EXIT
CLERICAL
SUPPLIES
VAULT
RECORDS
ADMINISTRATION
SERVICE COURT
TO ANIMAL HOUSE
GENERAL DELIVERY
ISSUING & RECEIVING
D. W.
GENERAL STORAGE
MEN
TOILET
LOCKERS
AREAWAY



LABORATORY TYPE A

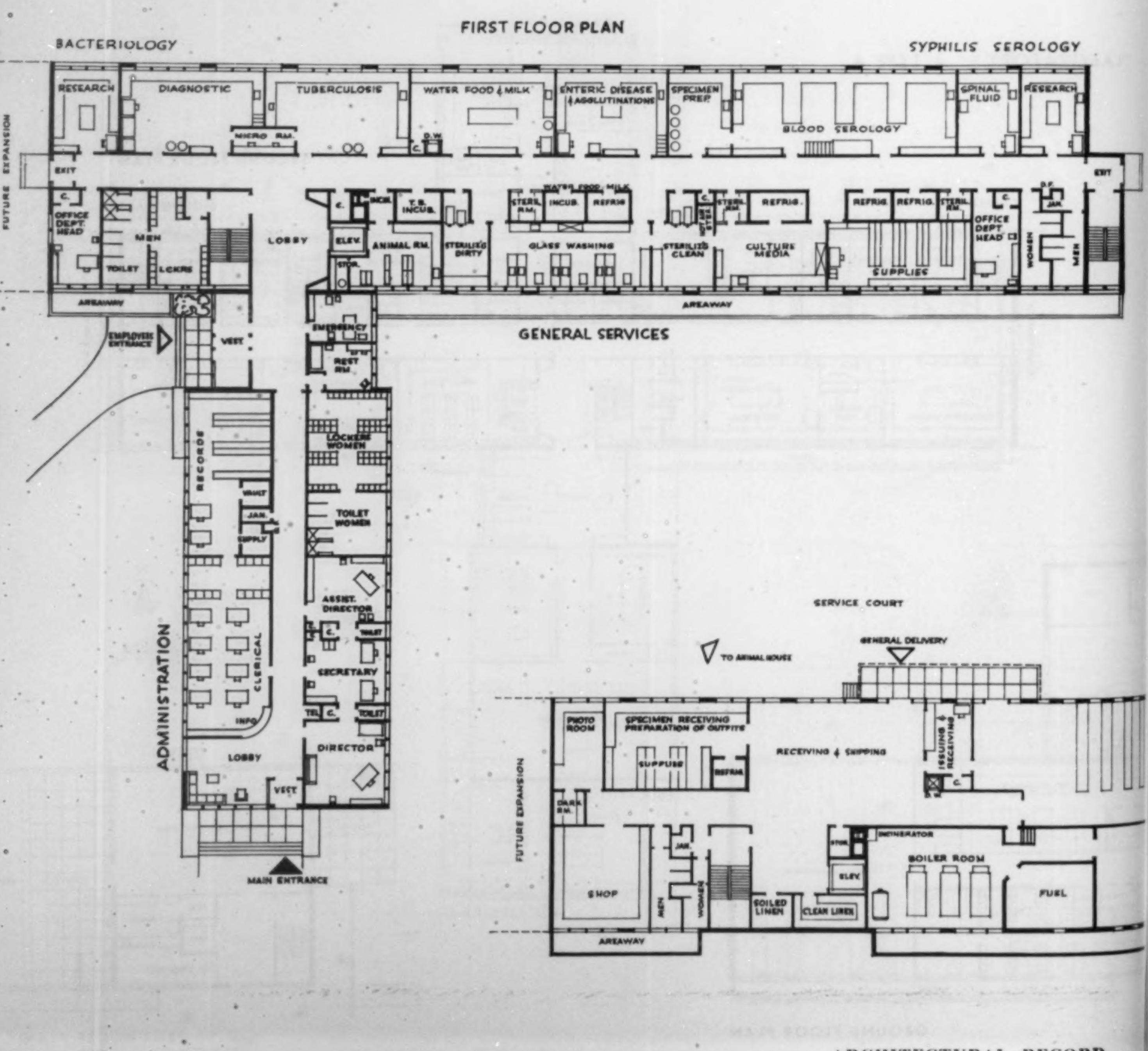

GENERAL SERVICES
BIOLOGICALS
GLASS WASHING
CULTURE MEDIA
STERILE ROOMS
JAN
STERILE ROOM
BLOOD PLASMA
STERILIZING
HOT AIR STER.
SECOND FLOOR PLAN
CHEMISTRY
OVERHANG
BIOLOGICALS
RESEARCH
RESEARCH
OFFICE
DEPT. HEAD
WATER
REFRIGERATOR
REFRIG.
REFRIG.
D.W.
INCUB.
SUPPLIES
INCUB.
PACKAGE
FILLING RM.
STERILE RM.
OFFICE
DEPT. HEAD
PERTUSSIS
TYPHOID
FUTURE EXPANSION
INDUSTRIAL HYGIENE
INSTR.
BALANCE ROOM
FOOD & DRUG
D.F.
JAN
WOMEN
MEN
ELEV
STOR.
ANIMAL ROOM
DIPHTHERIA
CONVAL. SERUM
RESEARCH
FUTURE EXPANSION
OVERHANG
MUSEUM
CONFERENCE
CL.
STORAGE
LIBRARY
N
GRAPHIC SCALE
0 4 8 12 16 FT
ASSEMBLY ROOM
EDUCATIONAL
FUEL
CLEAN LINEN
BOILER ROOM
INCINERATOR
SOILED LINEN
SPECIMEN RECEIVING & PREPARATION OF OUTFITS
PHOTO ROOM
REFRIGERATOR
SUPPLIES
DK. RM.
MECHANICAL EQUIPMENT
D.F.
STORAGE
JAN
ELEV
REST ROOM
LOCKERS
WOMEN
TOILET
AREAWAY
GROUND FLOOR PLAN
TERRACE
LUNCH & RECREATION ROOM
TERRACE
ROOF
ROOF
STOR.
PANTRY
ELEV.
WATER STILL
PENT-HOUSE PLAN

the various elements to be found in a laboratory building of this type. The basic requirements, such as the type of laboratory work to be done, the allotment of space to each department and local site conditions, will vary so much that it would not be possible to develop a plan that would be suitable to all situations. It will be found that the departments and their component elements as shown in these plans will exceed minimum requirements of some states and be somewhat below those of others.

Maximum flexibility, simplicity of piping and ease of expansion are essential in a laboratory building. It should be possible to rearrange spaces and equipment without making changes in the basic building structure or its mechanical and electrical system. Such flexibility will greatly reduce the time and expense required to alter laboratory space as the changes in character of work occur. It should be possible also to expand the building without disturbing the basic arrangement of the plan.

The accompanying Type A plans illustrate this principle. The fixed facilities, such as the elevator, main stairs, toilets, "walk-in" refrigerators and incubator, have been placed in central location. The general services (glass washing, sterilizing and culture media) are located in the rear wing while the laboratories are in the two side wings. This arrangement will allow expansion of the general services and the laboratories.

Other solutions are possible, of course. An alternate plan, Type B (p. 102), has been developed by the Public Health Service, in which the laboratories have been placed on the north side of one wing and the general

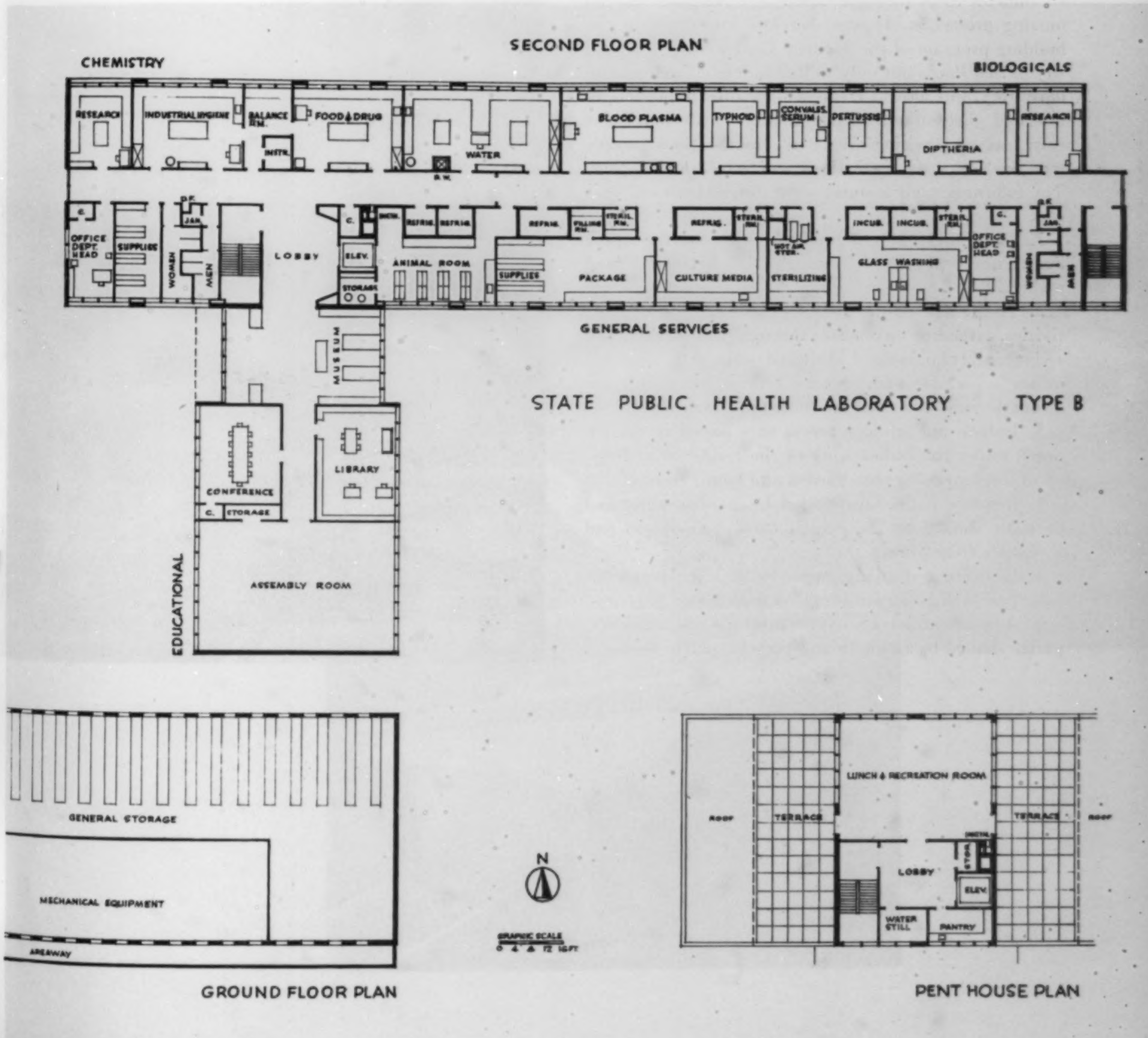

FIRST FLOOR PLAN
BACTERIOLOGY
SYPHILIS SEROLOGY
FUTURE EXPANSION
RESEARCH
DIAGNOSTIC
MICRO RM.
TUBERCULOSIS
WATER FOOD & MILK
D.W.
C.
ENTERIC DISEASE & AGGLUTINATIONS
SPECIMEN PREP.
BLOOD SEROLOGY
SPINAL FLUID
RESEARCH
EXIT
EXIT
C.
OFFICE DEPT. HEAD
MEN
TOILET
LCKRS
LOBBY
C.
INCUB.
T.B. INCUB.
ELEV.
STOR.
ANIMAL RM.
STERILIZ'G DIRTY
WATER FOOD MILK
STERIL. RM.
INCUB.
REFRIG.
GLASS WASHING
STERILIZ'G CLEAN
C.
STERIL. RM.
REFRIG.
CULTURE MEDIA
REFRIG.
REFRIG.
STERIL. RM.
SUPPLIES
C.
OFFICE DEPT HEAD
D.F.
JAN.
WOMEN
MEN
AREAWAY
AREAWAY
GENERAL SERVICES
EMPLOYEES ENTRANCE
VEST.
EMERGENCY
REST RM.
LOCKERS WOMEN
TOILET WOMEN
RECORDS
VAULT
JAN.
SUPPLY
CLERICAL
INFO.
ADMINISTRATION
LOBBY
VEST.
ASSIST. DIRECTOR
C.
TOILET
SECRETARY
TEL.
C.
TOILET
DIRECTOR
MAIN ENTRANCE
SERVICE COURT
TO ANIMAL HOUSE
GENERAL DELIVERY
FUTURE EXPANSION
PHOTO ROOM
SPECIMEN RECEIVING PREPARATION OF OUTFITS
SUPPLIES
REFRIG.
RECEIVING & SHIPPING
ISSUING & RECEIVING
D.W.
C.
DARK RM.
JAN.
SHOP
MEN
WOMEN
SOILED LINEN
CLEAN LINEN
STOR.
ELEV.
INCINERATOR
BOILER ROOM
FUEL
AREAWAY

services on the opposite side. The administration and education departments are located in a separate wing on the south side of the building.

The major services provided in the state public health laboratories at the present time are in the fields of bacteriology, chemistry and syphilis serology. The manufacture of biologicals is done to a limited degree. Provision must also be made for research, teaching, central services, animal quarters, administration and storage facilities. It is highly desirable to provide a separate animal house. Where a virology department is required it too should be in a separate building.

The bacteriology department should be located near the general services because of the volume of sterilizing, glass washing and culture media required in its work. Considerable refrigerator and incubator space is required, and in most cases the "walk-in" type is desirable. The preferable location for the refrigerators is near the water, food and milk laboratory of the department. A separate incubator is suggested for tuberculosis work and at least one sterile room for the department is required. Generous provision of space for a research laboratory is highly recommended. In those laboratories which do a considerable amount of microscopic work, it may be desirable to provide a small room or alcove screened from the glare of natural light.

Sixteen feet in width and twenty feet in depth have been used for the smallest laboratory in these plans. This size permits use of laboratory benches on the exterior wall and side walls to take advantage of the natural light and an island table 3 ft. 6 in. wide (without utilities) in the center leaving sufficient space for circulation.


SECOND FLOOR PLAN
CHEMISTRY
BIOLOGICALS
RESEARCH
INDUSTRIAL HYGIENE
BALANCE RM.
INSTR.
FOOD & DRUG
WATER
D.W.
BLOOD PLASMA
TYPHOID
CONVALES. SERUM
PERTUSSIS
DIPTHERIA
RESEARCH
C.
OFFICE DEPT. HEAD
SUPPLIES
WOMEN
D.F.
JAN.
MEN
LOBBY
C.
DUTCH
ELEV.
STORAGE
REFRIG.
REFRIG.
ANIMAL ROOM
REFRIG.
FILLING RM.
STERIL. RM.
SUPPLIES
PACKAGE
REFRIG.
STERIL. RM.
HOT AIR STER.
CULTURE MEDIA
STERILIZING
INCUB.
INCUB.
STERIL. RM.
GLASS WASHING
C.
OFFICE DEPT. HEAD
WOMEN
D.F.
JAN.
MEN
GENERAL SERVICES
MUSEUM
CONFERENCE
C.
STORAGE
LIBRARY
ASSEMBLY ROOM
EDUCATIONAL
GENERAL STORAGE
MECHANICAL EQUIPMENT
AREAWAY
GROUND FLOOR PLAN
N
GRAPHIC SCALE
0 4 8 12 16FT
ROOF
TERRACE
LUNCH & RECREATION ROOM
TERRACE
ROOF
INSTR.
STOR.
LOBBY
ELEV.
WATER STILL
PANTRY
PENT HOUSE PLAN

STATE PUBLIC HEALTH LABORATORY TYPE B

NURSES' SCHOOL AND RESIDENCE FOR SÃO PAULO

Peter Pfisterer, Chief Architect, Brazilian Field Party, Institute of Inter-American Affairs

Social customs peculiar to South America make it difficult to attract girls of educated families to the nursing profession. It was therefore important in the building program of the Medical Center of the University of São Paulo not only to build a nurses' school and dormitory, but also to create a pleasant atmosphere of informal distinction, if not luxury, with particular emphasis on inviting living accommodations, ample facilities for social gatherings and recreational space. The following plan features were directed toward that end:

1. The loosely knit main floor, with multi-purpose auditorium and gallery forming a link between school and residence.

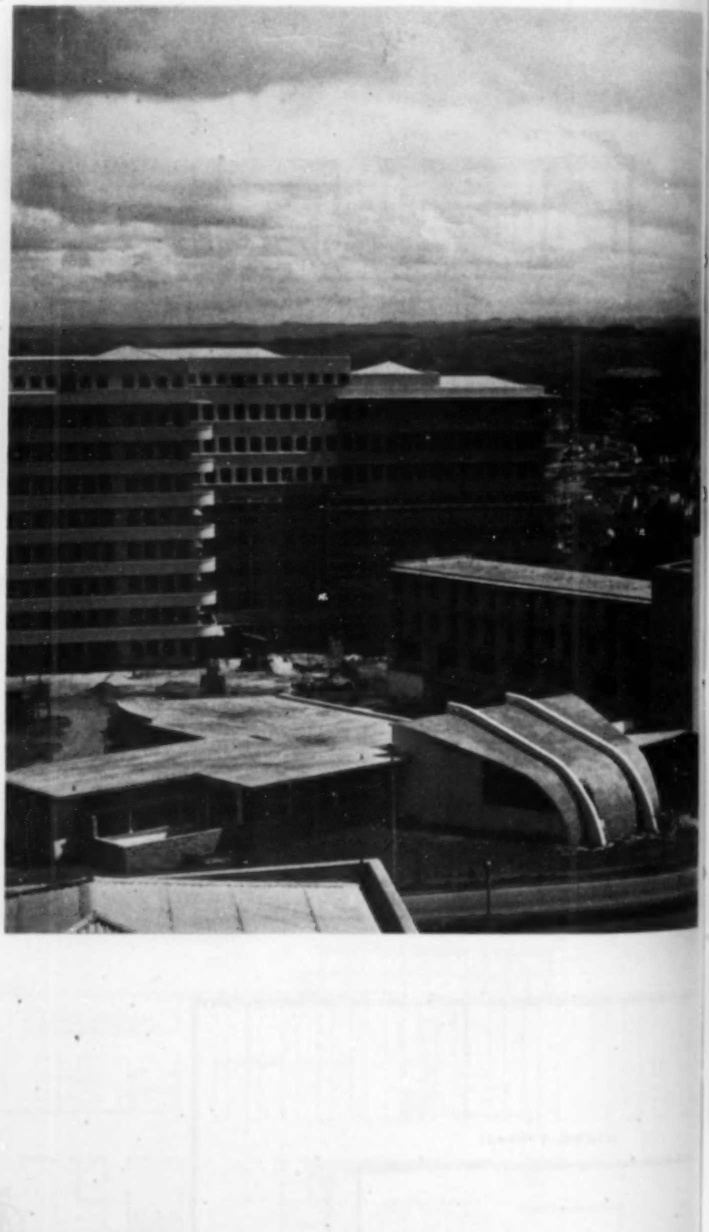
2. The design of the area for dining and social activities, extending on one side through sliding doors into an intimately landscaped, sheltered patio, and connected on the other side with an open terrace commanding a dramatic view over the city to distant mountains.

3. Indoor and outdoor access to a paved recreation porch under the center wing of the residence at basement level, opening onto garden and tennis courts.

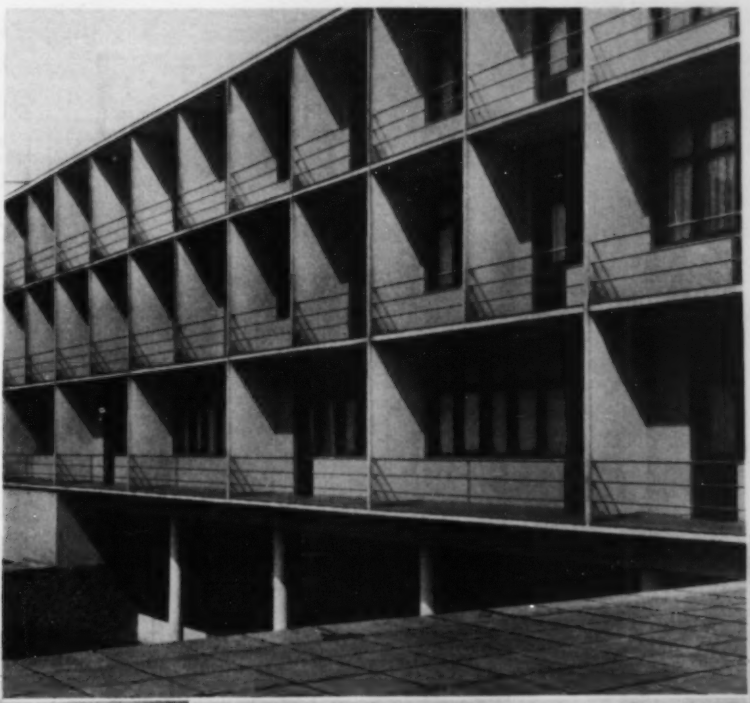
4. Reading patio, surrounded by garden walls and partially shaded by the pergola, easily supervised and accessible from library.

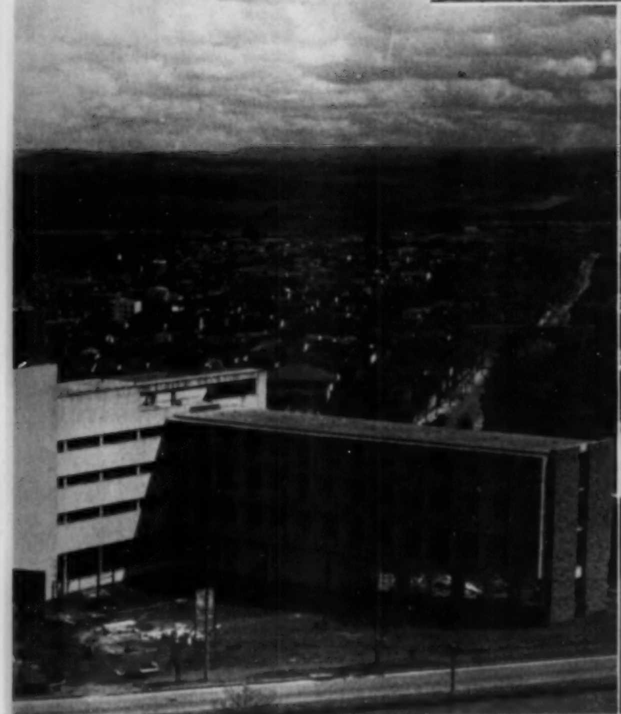
5. Lounges and living rooms with kitchenettes at focal points of residence wings on each floor.

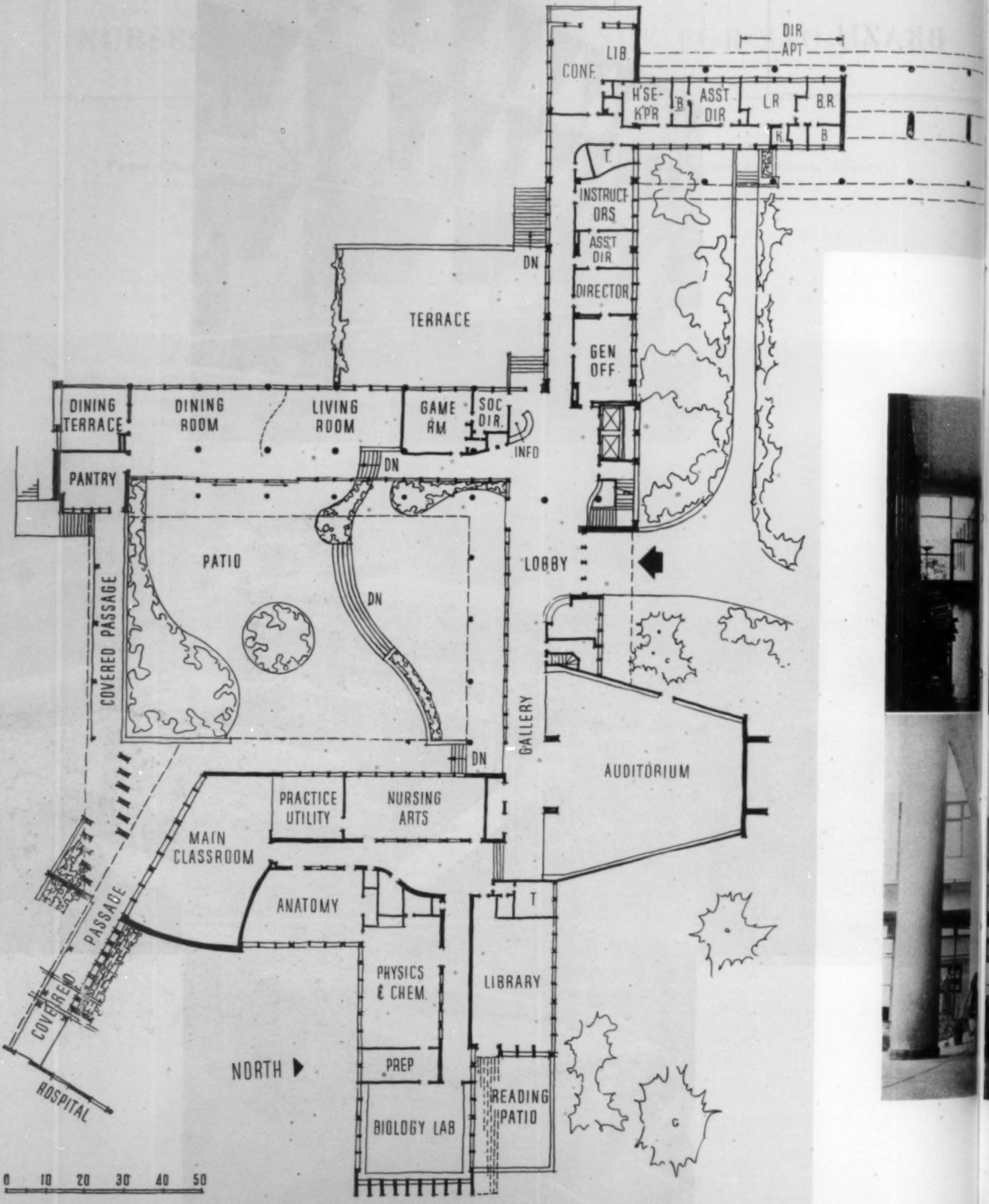
6. A large roof terrace over central wing of residence, partly shaded by canopies and pergola, partly open.

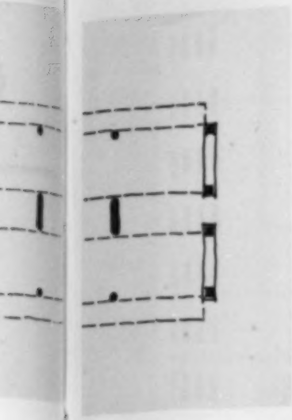


BRAZIL

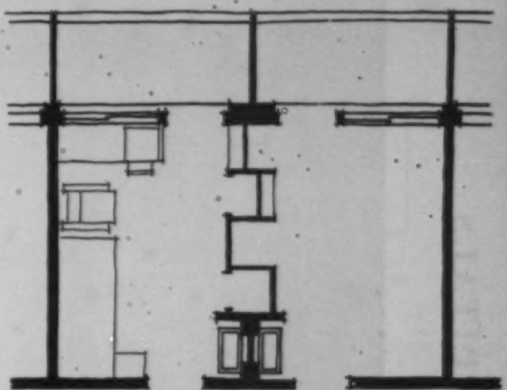




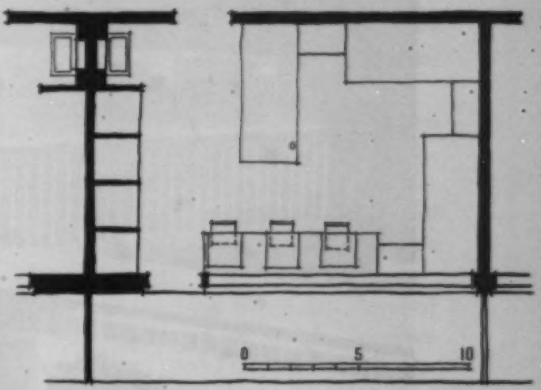

DIR APT
LIB.
CONF.
H'SE-KPR
B.
ASST DIR
LR
B.R.
K
B
T.
INSTRUCTORS
ASST DIR.
DIRECTOR
GEN OFF
TERRACE
DN
DINING TERRACE
DINING ROOM
LIVING ROOM
GAME RM
SOC DIR.
INFO
DN
PANTRY
PATIO
DN
LOBBY
COVERED PASSAGE
GALLERY
DN
AUDITORIUM
PRACTICE UTILITY
NURSING ARTS
MAIN CLASSROOM
PASSAGE
ANATOMY
T
PHYSICS & CHEM.
LIBRARY
COVERED
HOSPITAL
NORTH
PREP
BIOLOGY LAB
READING PATIO
0 10 20 30 40 50



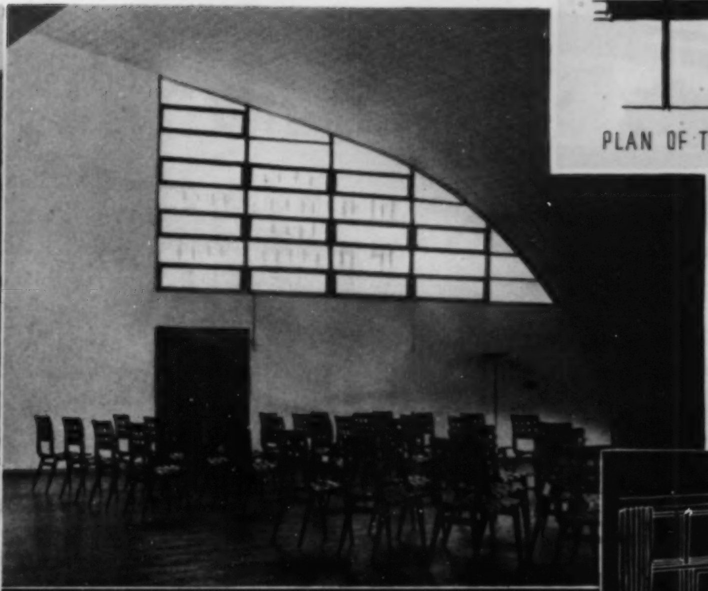
In spite of costs, the building committee decided that most students should have private rooms. Many first-year students, on the other hand, seem to prefer the company of classmates. One floor of the Z-shaped residence was subdivided into rooms for three nurses each (see detail plan). Each of these rooms takes twice the area of a single room, and therefore does not disturb a modular layout with one single room as the unit. Each pair of rooms has brick non-bearing partitions at column points, and shop-fabricated, closet and cabinet wall as the separating partition, with built-ins to save usable space

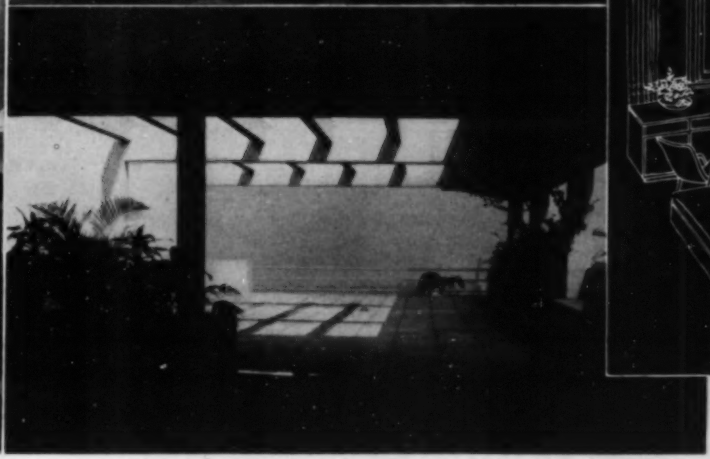


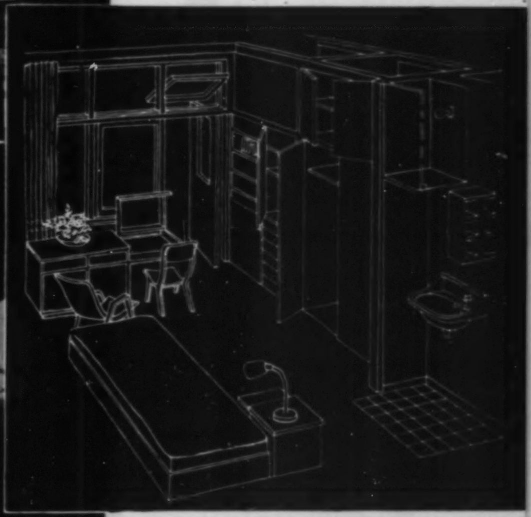
PLAN OF TYPICAL ROOM FOR 1 STUDENT NURSE

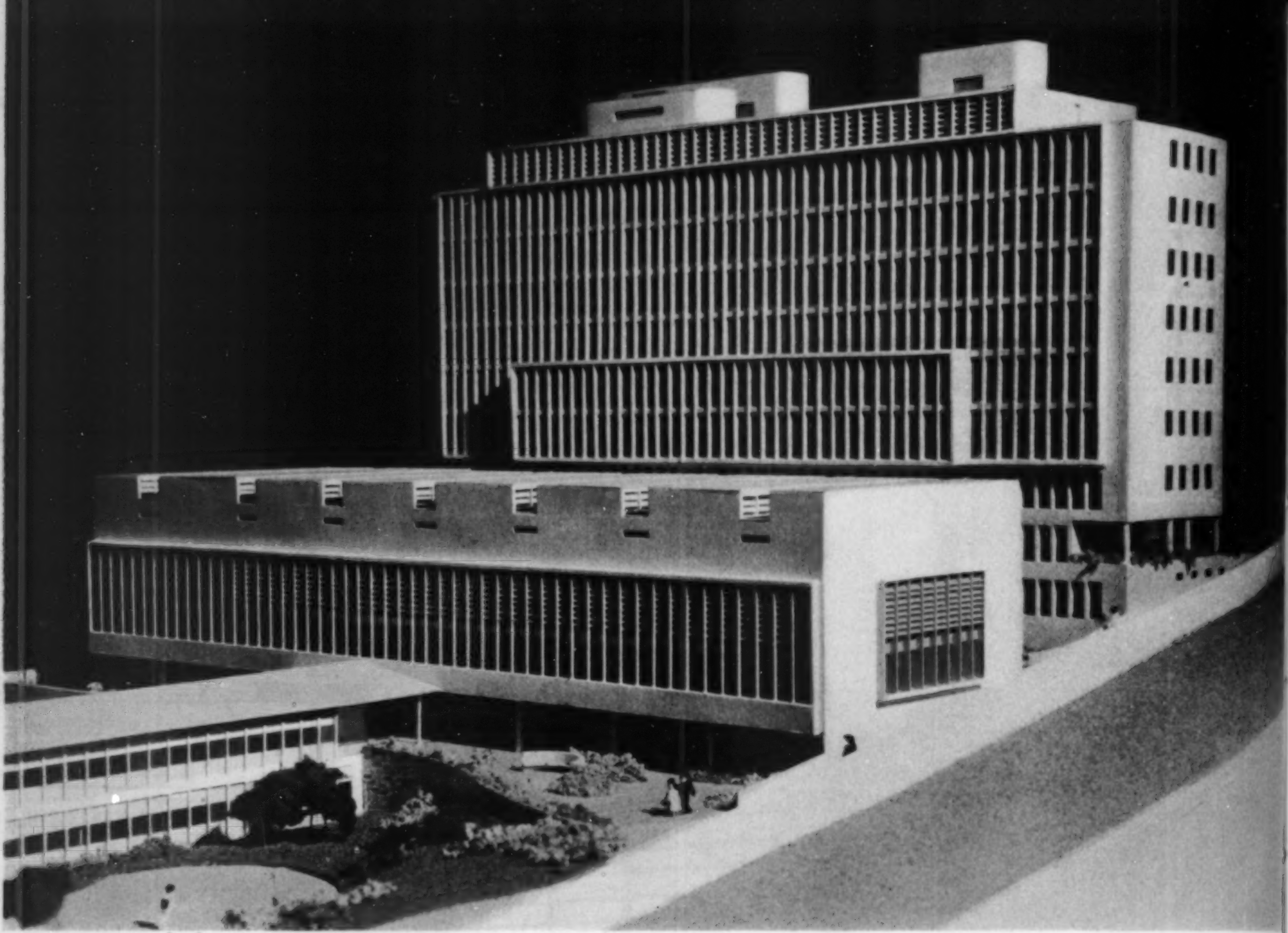


PLAN OF TYPICAL ROOM FOR 3 STUDENT NURSES









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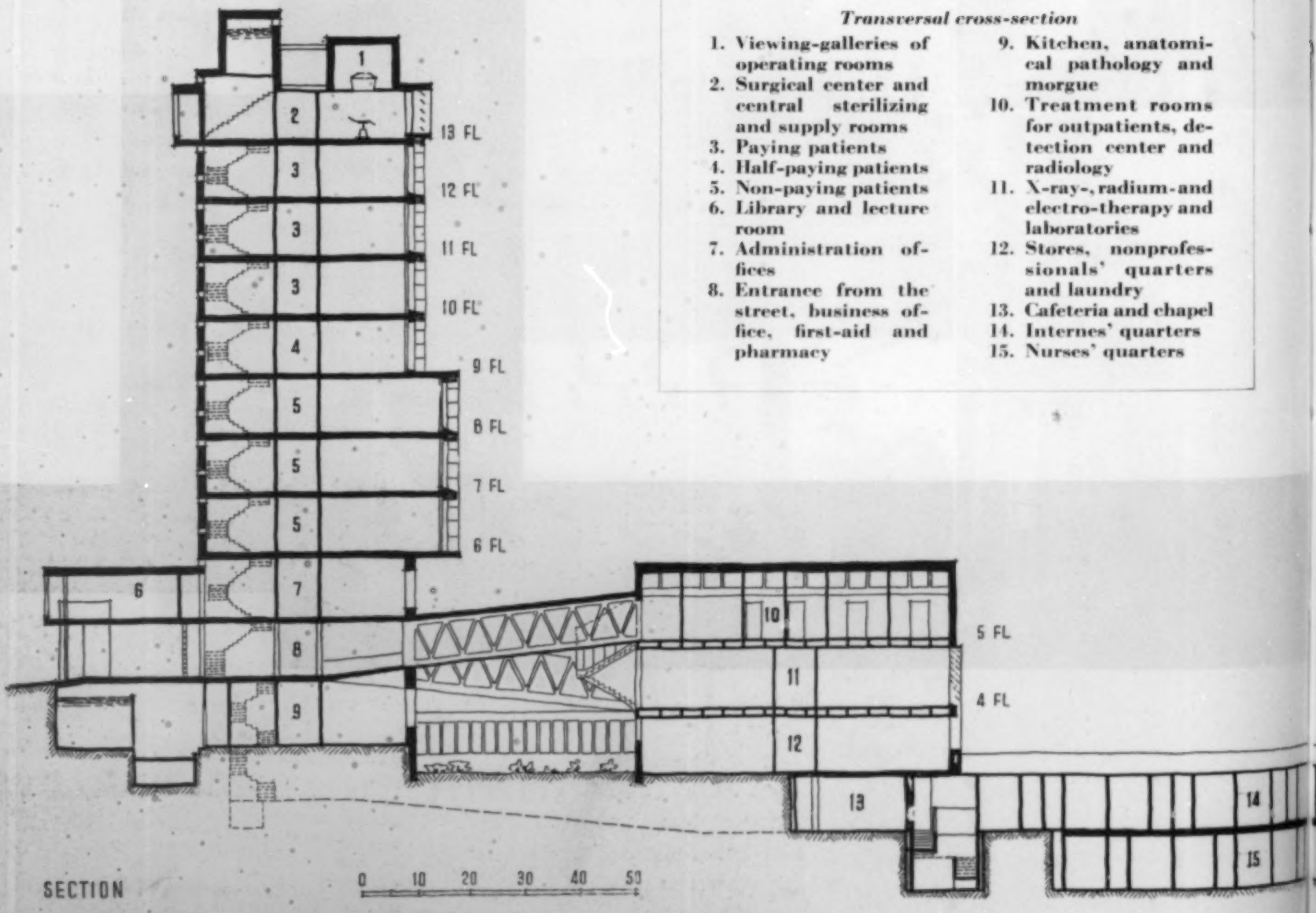
1
2
13 FL
3
12 FL
3
11 FL
3
10 FL
4
9 FL
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8 FL
5
7 FL
5
6 FL
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7
10
5 FL
8
11
4 FL
9
12
13
14
15
SECTION
0
10
20
30
40
50

Transversal cross-section

1. **Viewing-galleries of operating rooms**
2. **Surgical center and central sterilizing and supply rooms**
3. **Paying patients**
4. **Half-paying patients**
5. **Non-paying patients**
6. **Library and lecture room**
7. **Administration offices**
8. **Entrance from the street, business office, first-aid and pharmacy**
9. **Kitchen, anatomical pathology and morgue**
10. **Treatment rooms for outpatients, detection center and radiology**
11. **X-ray-, radium-and electro-therapy and laboratories**
12. **Stores, nonprofessionals' quarters and laundry**
13. **Cafeteria and chapel**
14. **Internes' quarters**
15. **Nurses' quarters**

INSTITUTO CENTRAL DO CANCER, SÃO PAULO

Hospital Antonio Candido de Camargo; Rino Levi, Roberto Cerqueira Cesar, Architects

This projected South American cancer hospital provides an interesting comparison with North American progress in hospital design, always remembering, of course, that there are some foreign customs to be taken into account. It might seem strange, for example, to see two separate banks of elevators, one for "paying patients," the other for "charity patients," but in South America it seems perfectly logical. One might hazard the guess that eventually such differences will gradually disappear, as each point is evaluated, but probably they never will completely.

The three building units shown are: one for hospitalization of some two hundred patients, a second for diagnostic and treatment facilities, the third for living quarters for doctors and nurses.

The hospitalization unit of eleven stories provides beds for about 125 charity, 30 semi-private and 45 private patients. Patient rooms are oriented away from the street to the northeast, receive sun from early morning to mid-afternoon, and are effectively isolated from traffic noises. They are, however, exposed to possible annoyance from the laundry and employees' dining room on the first floor of the adjoining adjunct service unit.

Wealthy upper class patients are the prime source of revenue in many countries. It is customary in Latin America to give them added facilities and complete privacy where conveniently possible. The separation of paying patients from charity patients in both inpatient and outpatient sections is clearly evident. Waiting rooms are separate and special bath and dressing rooms are provided where charity patients may presumably put on clean clothes before entering the hospital.

The architects state that the two separate elevator groups will be used indiscriminately for hospital service functions. It must be pointed out that while segregation of paying patients is successfully achieved by this division of elevators into two separate groups, a sizable service control problem has been created for the nurses on the patient floors and the operating room floor.

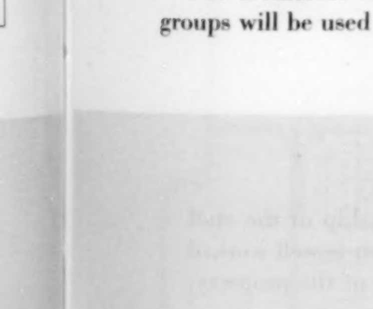
There are only fifteen patients, one to a room, in each paying patient nursing unit. This low patient-nurse ratio, which makes nursing care per patient excessively expensive, is due to the Latin American custom of providing an extra bed in each room for the patient's companion or private nurse.

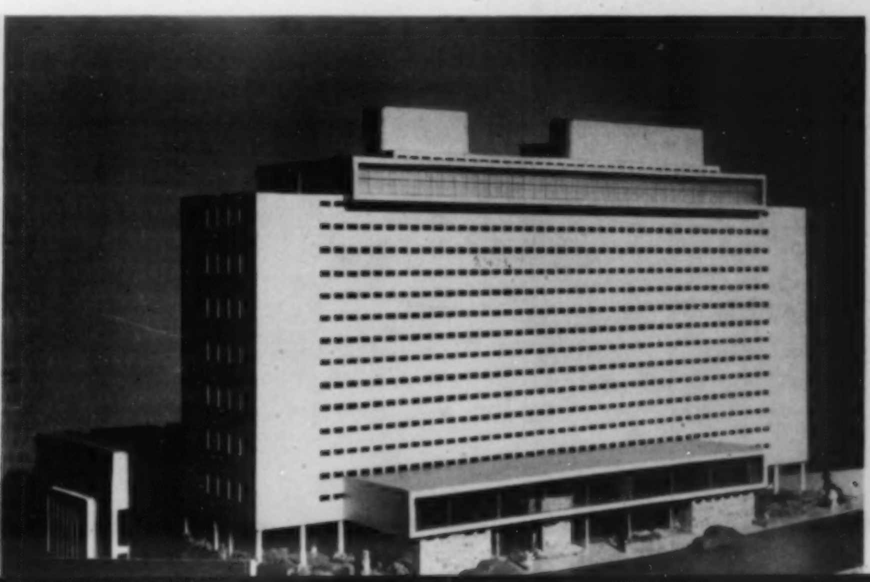
An interesting feature in the plan is the cantilevered service corridor on the surgery floor which provides access from the elevator to service rooms and the sterilization center without congesting the main operating room corridor.

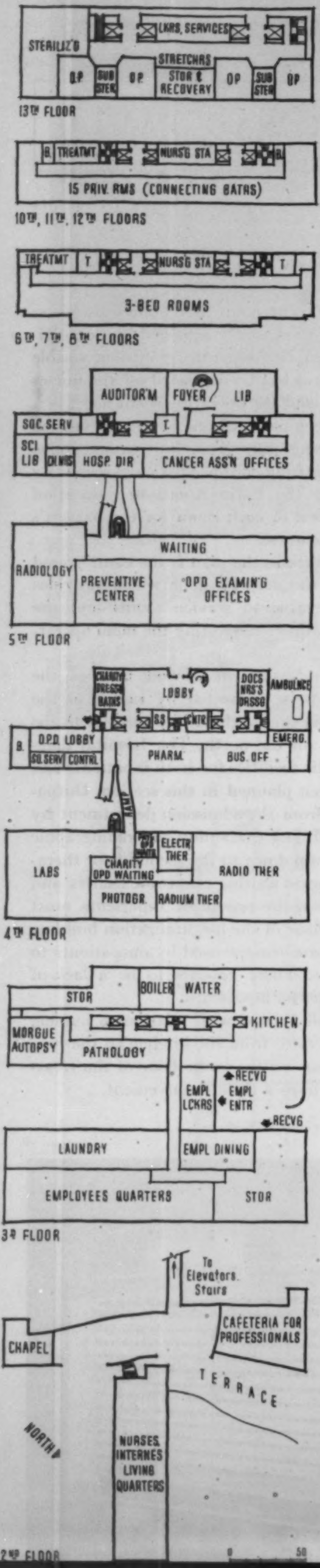
The three-story-and-basement second unit of the hospital group is closely connected by ramps to the hospitalization unit on the south and by corridor to the staff living quarters on the north. The hospital diagnostic and therapeutic facilities for both inpatients and outpatients have been planned in this section. Outpatients enter directly from the admission department by ramp up to the third floor examining and radiographic department or by ramp down to the second floor therapeutic services. Separate waiting rooms for charity and paying patients are again provided. Inpatients must descend to the first floor of the hospitalization building and cross over the same ramps used by outpatients to reach these facilities. There appears to be a lack of stretcher waiting space for inpatients.

The kitchen is well located with relation to nursing unit service. Food service from the kitchen to the help and staff dining rooms on the lower floor of the treatment building is perhaps a little inconvenient.

Translation and analysis by Edmund J. Whiting, A.I.A.

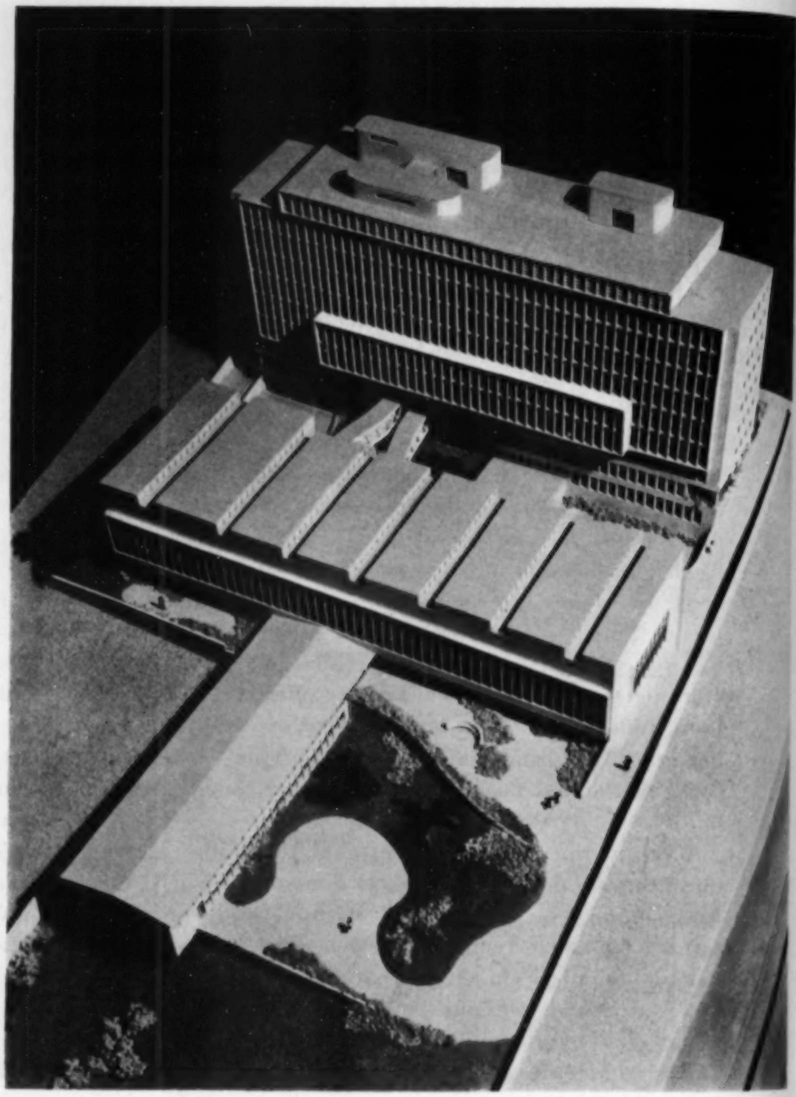






STERILIZ'D
LKRS, SERVICES
STRETCHRS
OP
SUB STER
OP
STOR & RECOVERY
OP
SUB STER
OP
13TH FLOOR
B
TREATMT
NURSG STA
B
15 PRIV. RMS (CONNECTING BATHS)
10TH, 11TH, 12TH FLOORS
TREATMT
T
NURSG STA
T
3-BED ROOMS
6TH, 7TH, 8TH FLOORS
AUDITOR'M
FOYER
LIB
SOC. SERV
T
SCI LIB
CLINIC
HOSP. DIR
CANCER ASS'N OFFICES
WAITING
RADIOLOGY
PREVENTIVE CENTER
OPD EXAMIN'G OFFICES
5TH FLOOR
CHARITY DRESS'G BATHS
LOBBY
DOCS NRS'S DRSSG
AMBULNCE
S.S
CNTR
B.
O.P.D. LOBBY
EMERG.
SO. SERV
CONTRL
PHARM.
BUS. OFF
RAMP
OPD WAITG
ELECTR THER
LABS
CHARITY OPD WAITING
RADIO THER
PHOTOGR.
RADIUM THER
4TH FLOOR
STOR
BOILER
WATER
KITCHEN
MORGUE AUTOPSY
PATHOLOGY
RECVG
EMPL LCKRS
EMPL ENTR
RECVG
LAUNDRY
EMPL DINING
EMPLOYEES QUARTERS
STOR
3RD FLOOR
To Elevators. Stairs
CHAPEL
CAFETERIA FOR PROFESSIONALS
TERRACE
NORTH
NURSES, INTERNES LIVING QUARTERS
2ND FLOOR
0
50

Foto-Curt

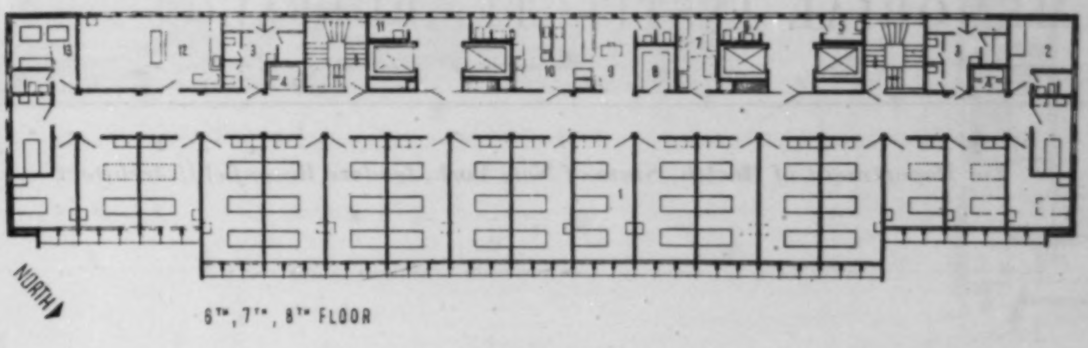


The isolated yet convenient relationship of the staff living quarters in the third building unit is well worked out. Terracing, using the natural slope of the property, has been done with pleasant informality.

As a general observation on the hospital group it must be observed that no day rooms or solariums, nor recreational or occupational therapy facilities appear in the plan. It is unusual in a cancer hospital of this size and importance that facilities to encourage the psychological well being of patients were not included as a necessary part of the program and planning.

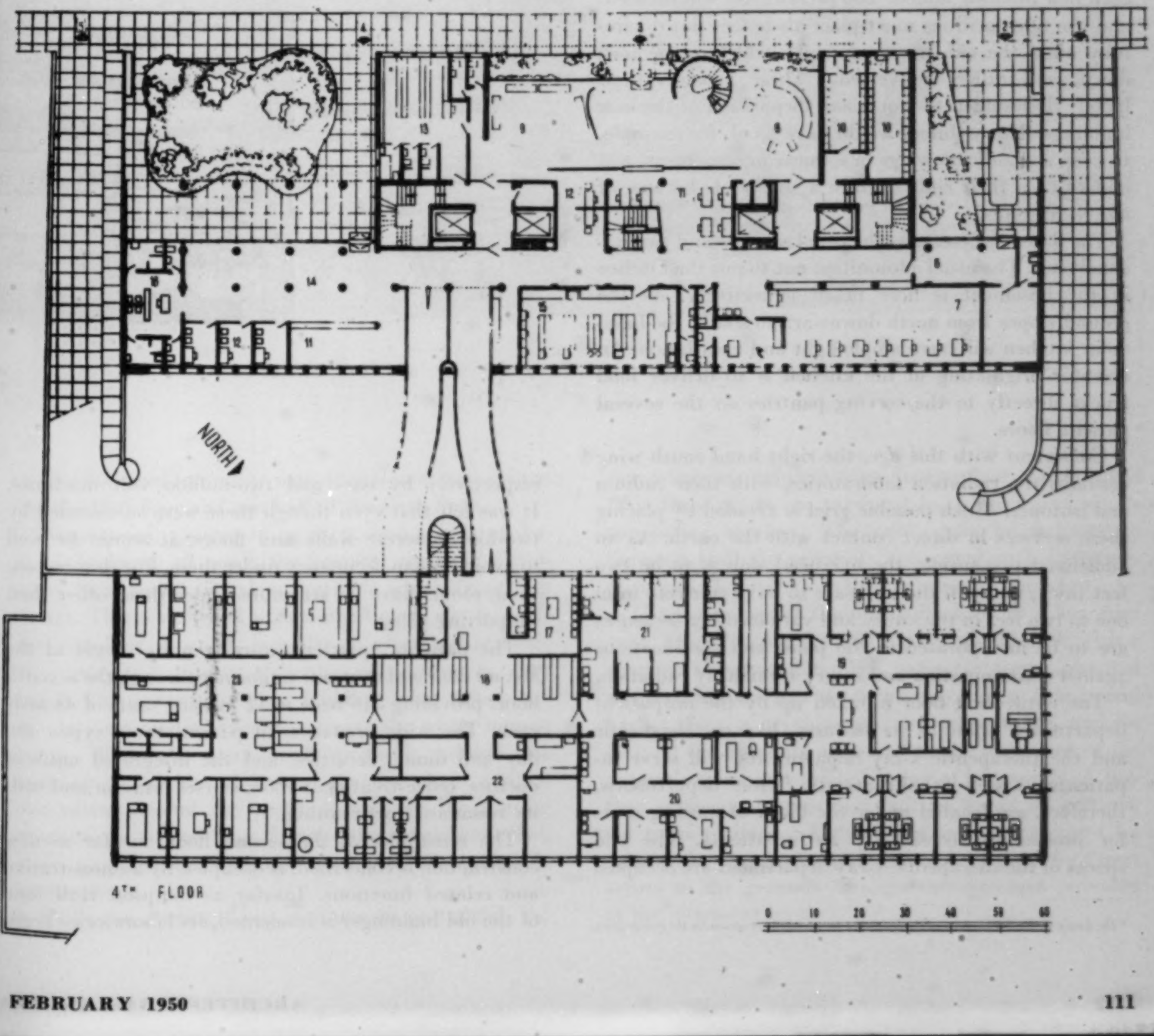
6th, 7th and 8th floors

1. Wards
2. Internes' rest-room
3. Bathrooms
4. Stretchers
5. Janitor closet
6. Helps' toilet
7. Office
8. Linen
9. Head nurse
10. Utility room
11. Soiled linen
12. Treatment and doctors' meeting
13. Chief doctor of the floor



4th floor

1. Entrance of trucks and nonprofessional personnel
2. First-aid entrance
3. General entrance (patients, professional personnel and visitors)
4. Outpatients' entrance
5. Funerals
6. First aid
7. Business office
8. Waiting space for paying patients
9. Waiting space for non-paying patients
10. Locker rooms for professional personnel
11. Admitting and cashier
12. Social inquiry
13. Locker room for non-paying ing patients
14. Outpatients' waiting space
15. Pharmacy
16. Bathroom
17. Waiting space for paying outpatients
18. Waiting space for non-paying outpatients
19. X-ray therapy
20. Radium therapy
21. Electro therapy
22. Photography
23. Laboratories



CANCER HOSPITAL FOR ROSWELL PARK MEMORIAL INSTITUTE, BUFFALO

For Department of Health, State of New York, Isadore Rosenfield, Architect

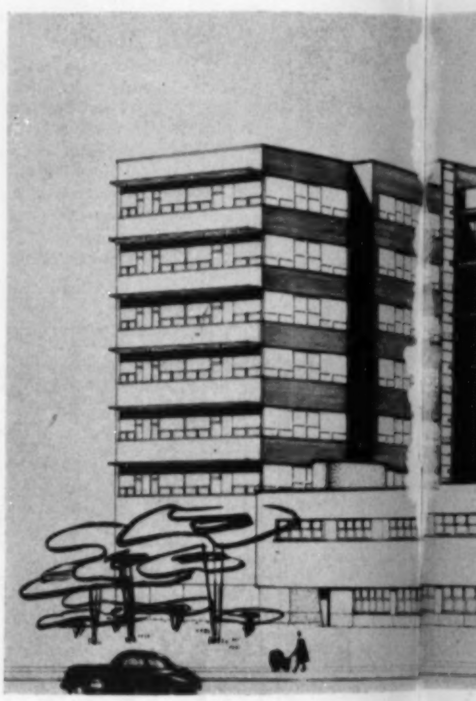
ONE of several projected cancer hospitals, this one well illustrates the complications of such an institution. It has everything from isotopes housed in thick concrete walls to a beauty parlor, the latter explained by the enlightened concept of hospital care which treats the whole patient, not merely his tissues.

The new buildings here will provide more than 500 beds and add a great variety of laboratory facilities to a 50-year-old institution that has gradually burst through each new building added. The present site will be used, and the new facilities must place their feet down carefully amid the old, many of which will later be torn down, and others converted.* These considerations largely determined the form and disposition of the new buildings. The architect would have liked, for example, to keep some of the wings in a linear arrangement, but had to turn their ends to form a shallow U because of site restrictions.

The basement contains the usual services and two unusual ones. The usual admonition not to put the kitchen in the basement is here taken figuratively. As the ground slopes from north downward to south, the basement kitchen will have ample light and ventilation. An elevator originating in the kitchen is to deliver food trucks directly to the serving pantries on the several patient floors.

Consistent with this age, the right hand south wing contains the radiation laboratories, with their radium and isotopes. Much possible grief is avoided by placing these services in direct contact with the earth. As an additional precaution, the overhead slab is to be two feet thick, many of the walls are to be of concrete from one to two feet in thickness, and various other measures are to be incorporated in the plans and specifications against contamination and injury from stray radiation.

The entire first floor is taken up by the outpatient department. Some of its features, like the diagnostic and the therapeutic x-ray departments, will serve inpatients as well as outpatients. These departments, therefore, are located under the block of nursing units for immediate accessibility by inpatients. The end spaces of the therapeutic x-ray department are occupied respectively by one- and two-million volt machines. It was felt that even though these were surrounded by two-foot concrete walls and floors, it would be well to avoid human occupancy under them. For that reason, these rooms have no structure under them other than supporting piers.



The patients' quarters (nursing units) begin at the second floor and continue uniformly through the seventh floor, providing 516 beds in 12 nursing units of 43 beds each. The wide gradation in patient room types, the day and dining facilities, and the integrated units of doctors' office-treatment room-nurses' station and utility room are worth noting.

The remainder of the second floor, insofar as new construction is concerned, is occupied by administrative and related functions. Insofar as Simpson Hall (one of the old buildings) is concerned, its laboratories begin

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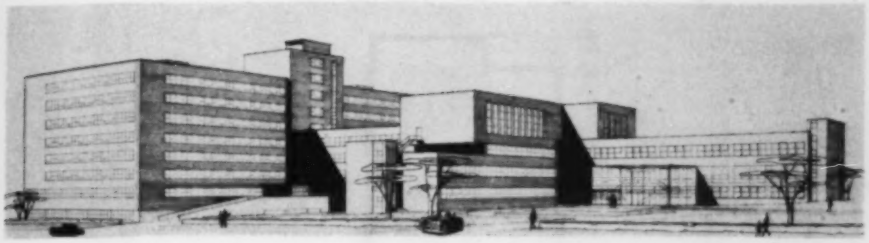
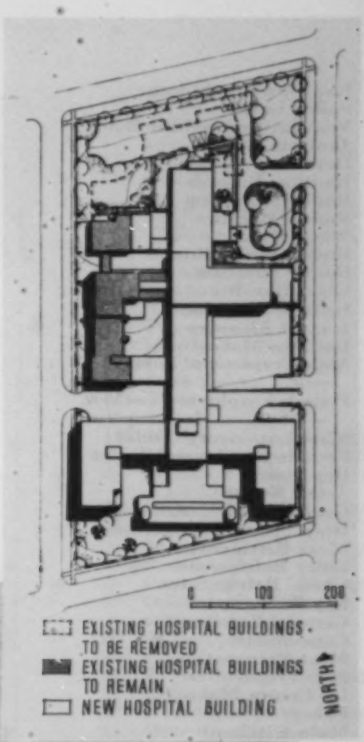
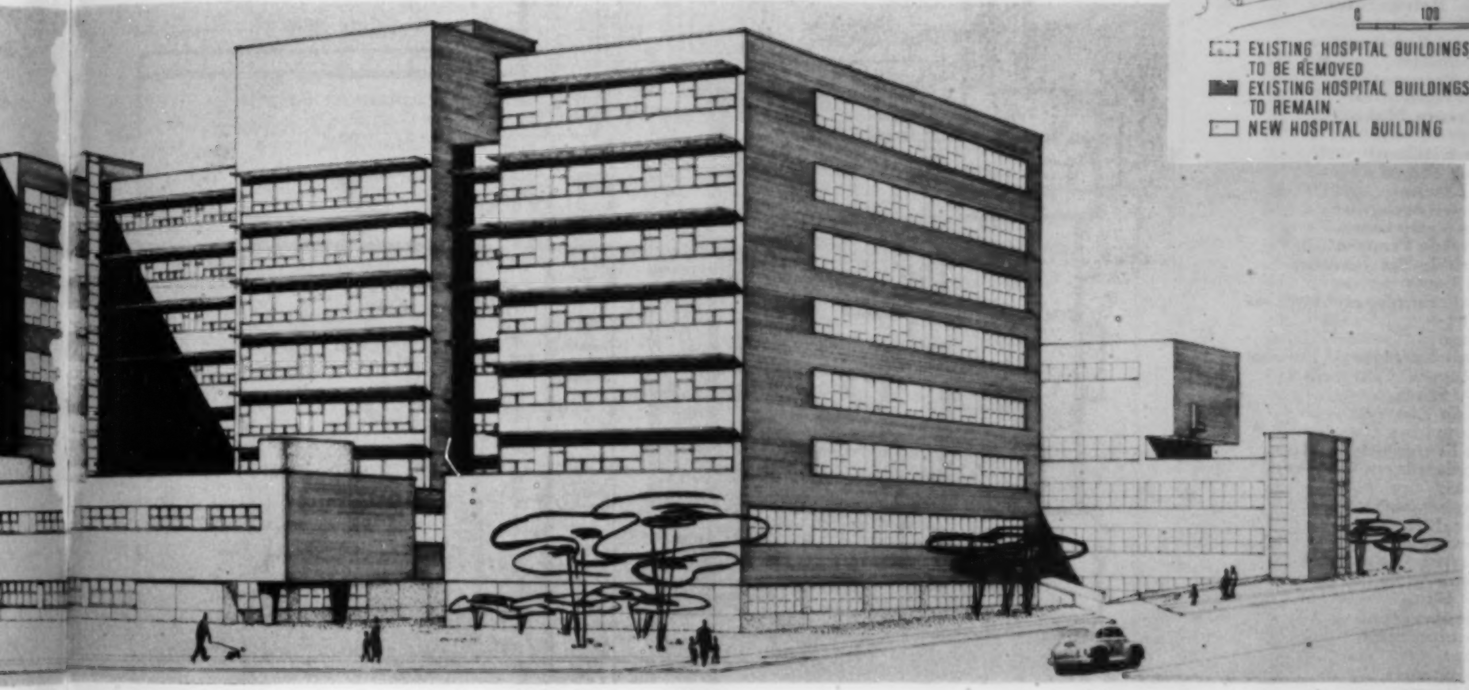
* Dr. Louis C. Kress, Director of the Institute, prepared the program for the new project.




0
100
200
EXISTING HOSPITAL BUILDINGS TO BE REMOVED
EXISTING HOSPITAL BUILDINGS TO REMAIN
NEW HOSPITAL BUILDING
NORTH



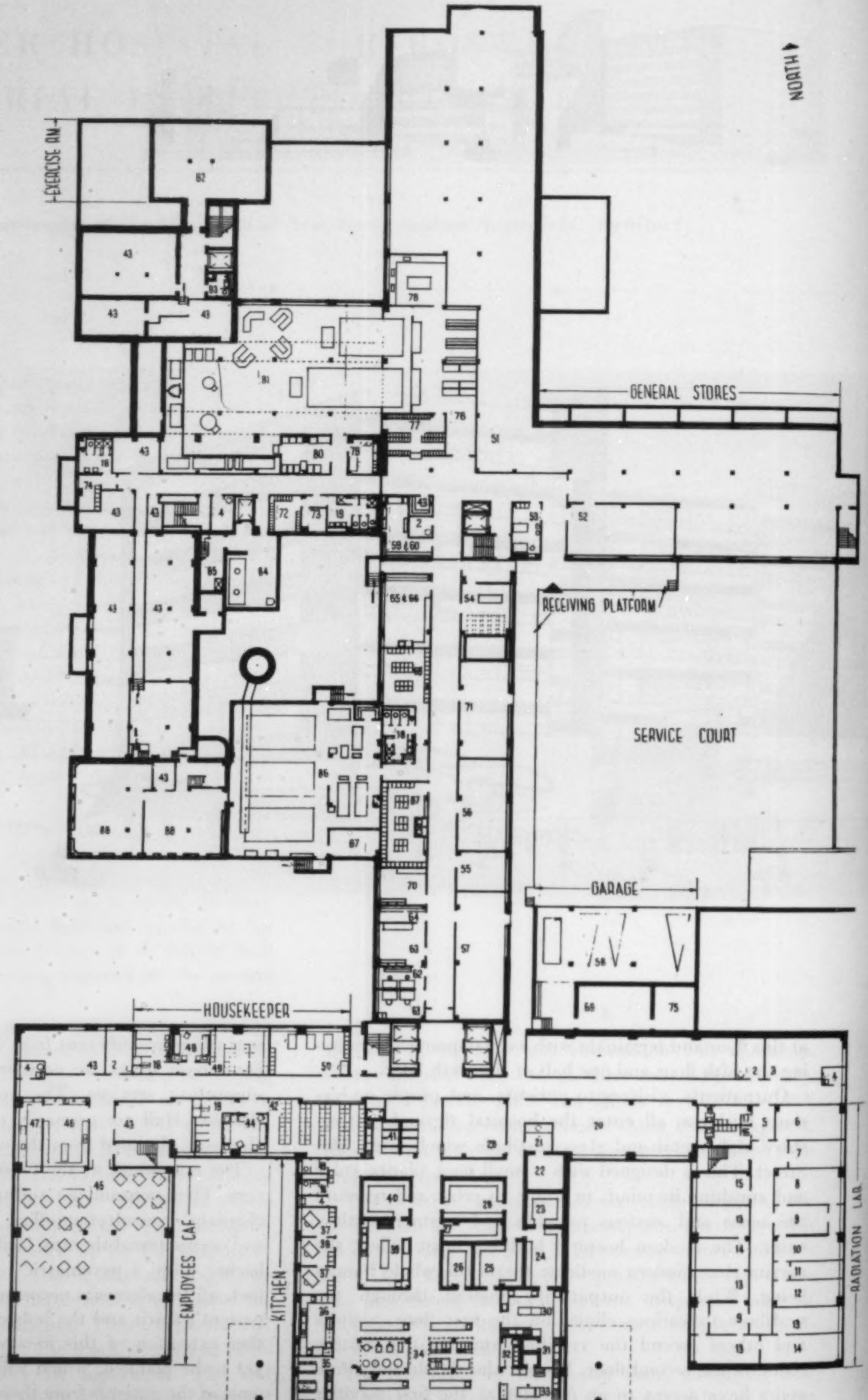
at this floor and terminate with animal quarters occupying the fifth floor and one half of the sixth floor.

Outpatients, visitors to patients, and people on various business, all enter the hospital through a two-story high metal and glass vestibule which faces Elm Street. This is designed with a small pool, plants, color and sunshine in mind, in order to relax and reassure the tense and anxious patients and visitors as they enter. The modern hospital building must reflect the maxim that modern medicine treats the whole human being. While the outpatients proceed through the vestibule to various clinics on the first floor, visitors and others ascend the vestibule stair to the waiting room on the second floor. People who should not climb stairs have access to an elevator at the first corridor intersection.

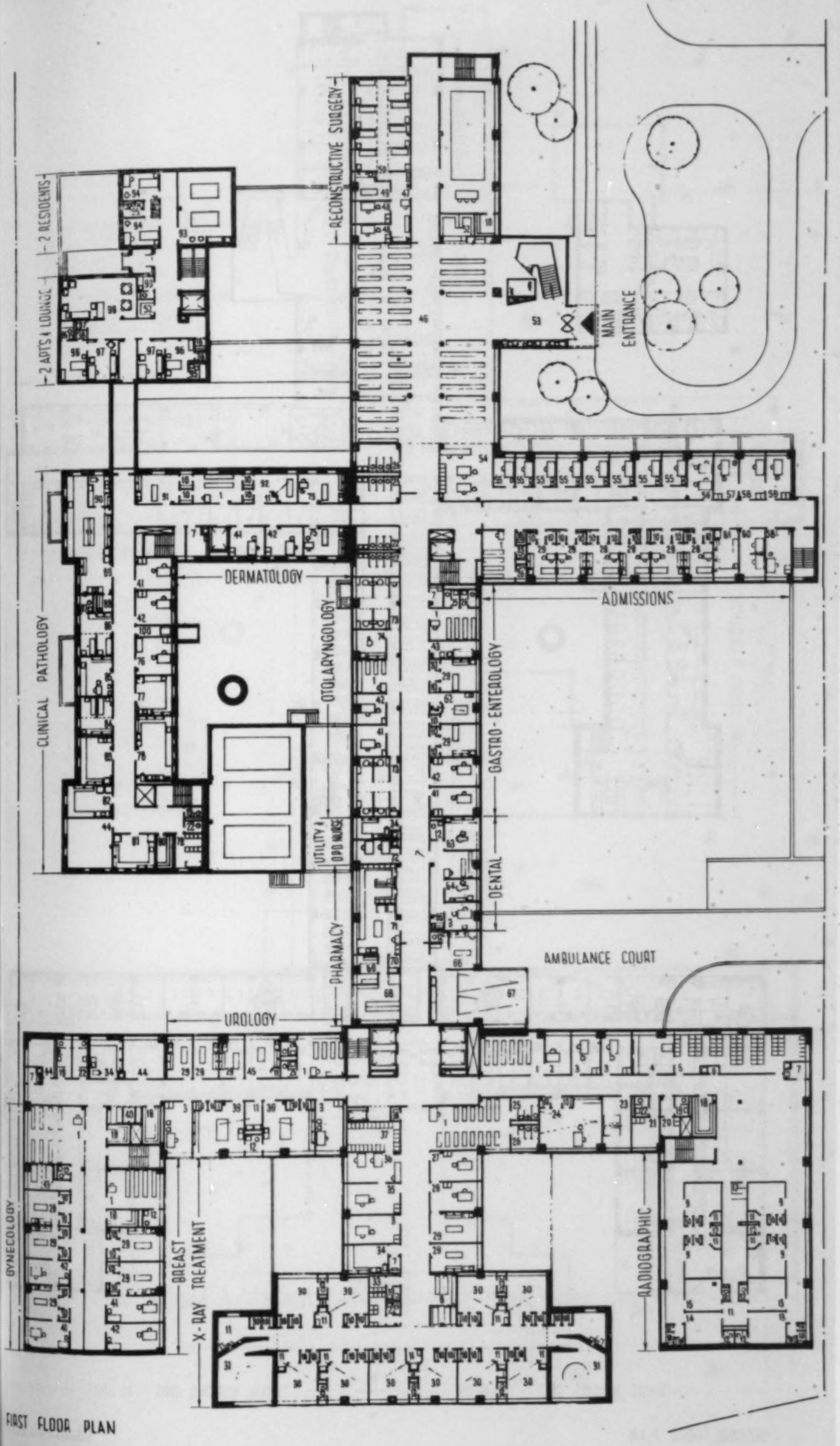
While the nursing floors continue to be typical, the rear wings are different from floor to floor. At the third floor these wings are occupied by surgery and all its supporting services. The contiguous laboratories in Simpson Hall are primarily concerned with the study of tissues obtained from the operating department.

The rear wings at the fourth floor are in a less grim vein. They contain the auditorium, the chapel, with a chaplain's consultation office, patients' library, physical and occupational therapy facilities, canteen, beauty and barber shop, a psychiatric consultation office, and, in fact, all the elements necessary to the treatment of the patient's spirit and the bolstering of his morale. A further extension of this idea will be found in gardens, yet to be planned, which will be seen and enjoyed by most of the patients from their rooms, and also by direct access to the grounds through two passages provided at the basement level.

1	Radiographic Storage
2	Soiled Linen
3	Ventilating Machine Room
4	Janitors' Room
5	Detection
6	Radium Records
7	Radon Receiving
8	Radon Measure
9	Wash Room
10	Radon Pump Room
11	Radon Solution
12	Glass Blowing
13	Isotope Emission
14	Isotope Measure
15	Radium Make-Up
16	Male Employees' Lockers — 5
17	Female Employees' Lockers — 3
18	Male Employees' Toilet
19	Female Employees' Toilet
20	Dry Stores
21	Trash Room
22	Garbage Refrigerator
23	Deep Freeze Refrigerator
24	Meat Refrigerator
25	Dairy Refrigerator
26	Chefs' Refrigerator
27	Dry Refrigerator
28	General Refrigerator
29	Commissary
30	Meat Preparation
31	Fish Preparation
32	Ice Cream Making
33	Bakery
34	Main Kitchen
35	Dining Room
36	Diet Kitchen
37	Office — Assistant
38	Office — Dietitian
39	Vegetable Preparation
40	Vegetable Refrigerator
41	Food Carts
42	Female Employees' Lockers — 84
43	Storage
44	Female Employees' Lounge
45	Employees' Cafeteria — (290 Seats)
46	Serving Pantry
47	Dishwashing
48	Male Employees' Lounge
49	Male Employees' Lockers — 45
50	Housekeeper's Office
51	General Stores
52	Receiving Stores
53	Receiving Office
54	Morgue
55	Paint Shop
56	Carpentry Shop
57	Plumbing Shop
58	Garage
59	Mimeograph Room
60	Mail Room
61	Office
62	Drafting Room
63	Work Room
64	Store Room
65	Ground Maintenance
66	Ground Storage
67	Office — Chief Engineer
68	Mail Employees' Lockers — 35
69	Machine Room
70	Electric Shop
71	Machine Shop
72	Female Employees' Lockers — 26
73	Female Employees' Lounge
74	Male Employees' Lockers — 5
75	Electricity & Transformer
76	Clean Linen
77	Personnel Linen
78	Sewing Room
79	Office
80	Sorting
81	Laundry
82	Exercise Room
83	Toilet
84	Incinerator Room
85	Hoist Room
86	Boiler Room
87	Record Storage
88	Unassigned



BASEMENT FLOOR PLAN

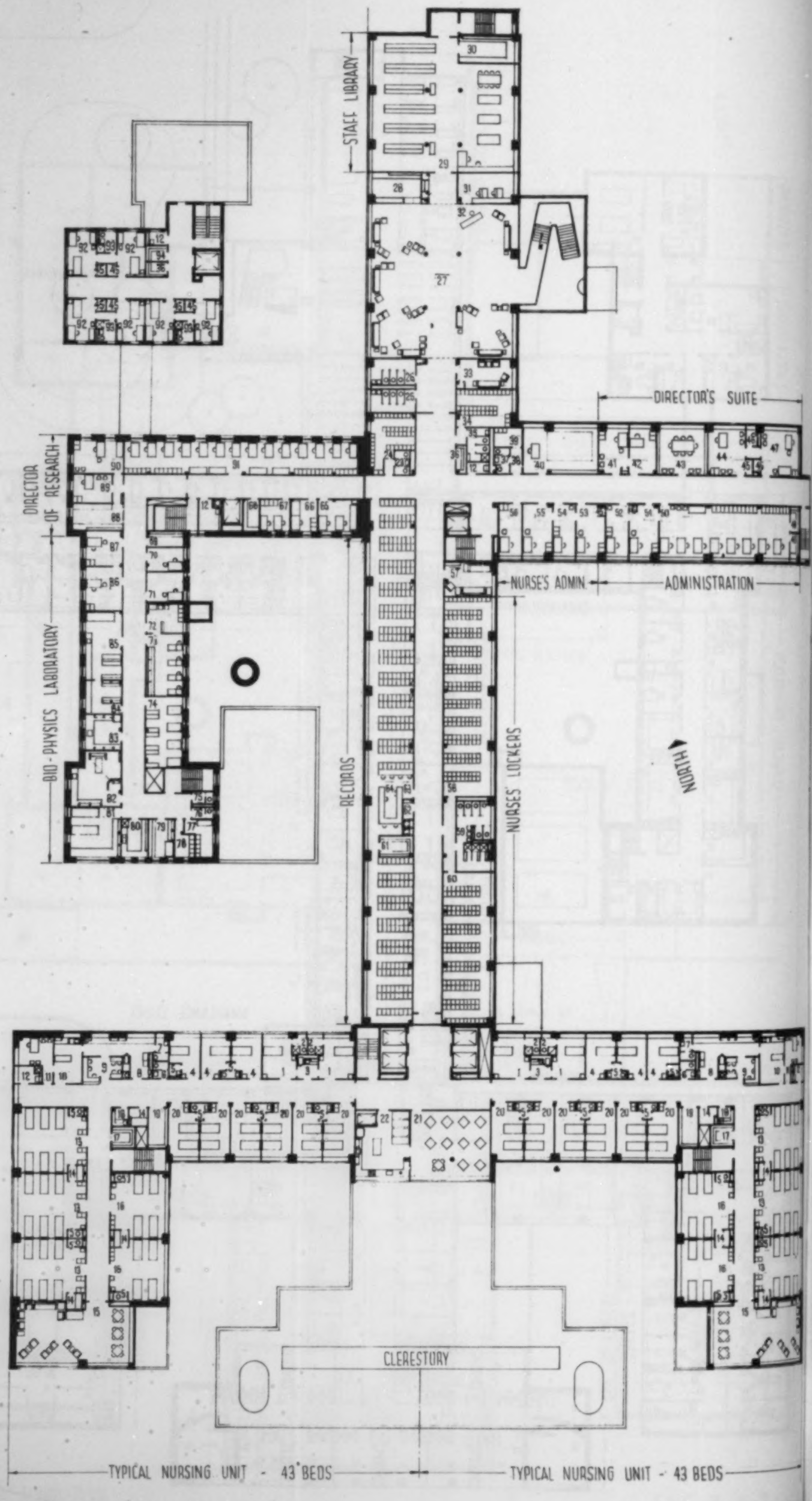


RECONSTRUCTIVE SURGERY
MAIN ENTRANCE
2 RESIDENTS
2 APTS & LOUNGE
DERMATOLOGY
CLINICAL PATHOLOGY
OTOLARYNGOLOGY
GASTRO-ENTEROLOGY
ADMISSIONS
UTILITY & OPD NURSE
DENTAL
PHARMACY
AMBULANCE COURT
UROLOGY
GYNECOLOGY
BREAST
X-RAY TREATMENT
RADIOGRAPHIC
RADIATION LAB

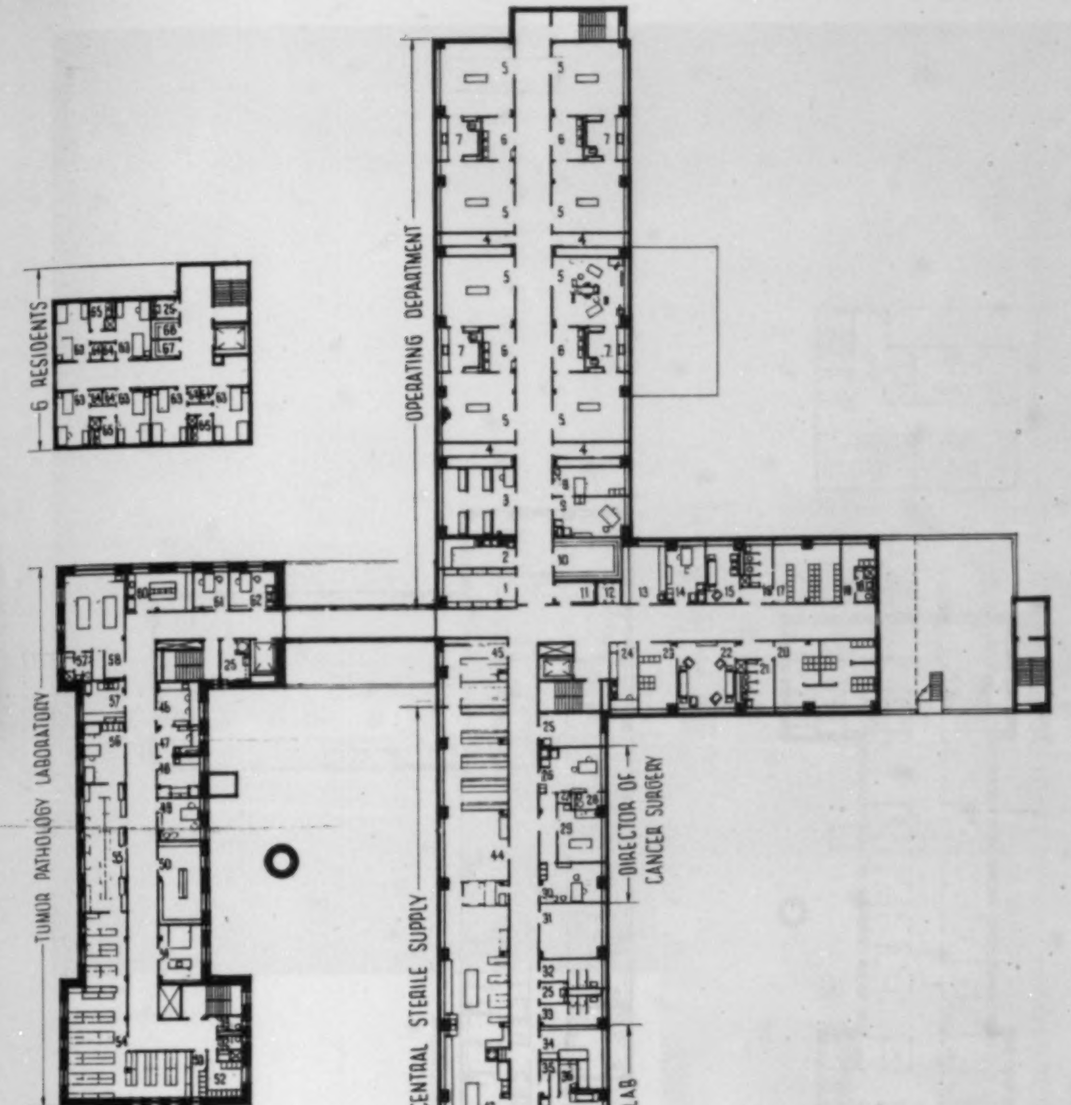
FIRST FLOOR PLAN

1	Patient Waiting
2	Office — Secretary
3	Office
4	Viewing Room
5	File Room
6	Soiled Linen
7	Janitors' Room
8	Patient & Stretcher Waiting
9	Radiographic Room
10	Dressing Room
11	Control Room
12	Toilet
13	Fluoroscopic Room
14	Gastro-Intestinal
15	Chest Room
16	Dark Room
17	Maze
18	Supply & Storage
19	Male Employees' Toilet
20	Male Employees' Lockers
21	Female Employees' Lockers — 3
22	Female Employees' Toilet
23	Rest Room
24	Dispensary Photography
25	Patient Toilet — Male
26	Patient Toilet — Female
27	Office — Department Head
28	Office — Assistant
29	Examining Room
30	X-Ray Treatment Room
31	X-Ray Treatment
32	Female Empl. Lockers
33	Male Employees' Lockers
34	Utility Room
35	Office
36	Office — Secretary & Clerk
37	Chart Room
38	Closet
39	Cystoscopic Room
40	Stretchers
41	Office
42	Office
43	Recovery
44	Unassigned
45	Urogram, Examination
46	Lobby & Waiting
47	Secretary & Waiting
48	Office
49	Examination Room
50	Treatment Cubicles — 8
51	Lecture Room — 100 Seats
52	Coat Room
53	Vestibule
54	Control Office
55	Case History Rooms
56	Office — Social Service
57	Office — Admissions M.D.
58	Office — Stenographer
59	Office — Assistant
60	Dictation Room
61	Hematology Room
62	Proctoscopic Room
63	Dental Hygienist Room
64	Operation Room
65	Laboratory
66	Receiving Room
67	Ambulance Enclosure
68	Drug Storage
69	Spirit Storage
70	Narcotic Storage
71	Pharmacy & Dispensing
72	Office — Head Nurse
73	Treatment Cubicles — 4
74	Radium Treatment
75	Treatment Cubicle
76	Office — Bacteriologist
77	Bacteriology Laboratory
78	Preparation Room
79	Female Empl. Lockers
80	Refrigerated Room
81	Serology
82	Blood Bank
83	Blood Processing
84	Blood Taking
85	Hematology
86	B. M. & E. K. G.
87	Specimen Toilet
88	Preparation
89	General Laboratory
90	Washing & Sterilizing
91	Radium Treatment
92	Superficial Therapy
93	Billiard Room
94	Residents' Room
95	Bath Room
96	Bed Room
97	Living Room
98	Lounge
99	Powder Room
100	Incinerator Room

1 Isolation Room
2 Bath Room
3 Sub-Utility Room
4 Single Room
5 Patients' Toilet
6 Male Attendants' Toilet
7 Nurses' Toilet
8 Utility Room
9 Nurses' Station
10 Treatment Room
11 Consultation Room
12 Janitors' Room
13 Six-Bed Room
14 Patients' Bath
15 Solarium
16 Four-Bed Room
17 Linen Room
18 Flower Room
19 Stretcher & Storage
20 Two-Bed Room
21 Dining Room — 44 Seats
22 Serving Pantry
23 Employees' Toilet — Female
24 Female Lockers — 41
25 Public Toilets — Male
26 Public Toilets — Female
27 Lobby & Waiting
28 Newsstand, etc.
29 Staff Library
30 Work Room
31 Telephone Switchboard
32 Information
33 Retiring Room
34 Male Nurses' Lockers — 35
35 Male Nurses' Toilet
36 Storage
37 Employees' Toilet — Male
38 Foyer
39 Male Employees' Lockers — 3
40 Classroom
41 Office — Assistant Director
42 Office — Secretary
43 Medical Board Room
44 Office — Secretary & Waiting
45 Closet
46 Toilet
47 Office — Director
48 Supply Closet
49 Fireproof Room
50 Business Office
51 Office — Admin. Ass't
52 Office — Secretary
53 Office — Director of Nurses
54 Office — Secretary
55 Office — Assistant Director of Nurses
56 Office — Educational Dir.
57 Female Employees' Lounge
58 Nurses' Lockers — 188
59 Nurses' Toilet & Bath
60 Nurses' Lockers — 132
61 Supply Room
62 Supply
63 Record Room
64 Medical Librarian, etc.
65 Statistical Machines
66 Office — Statistician
67 Office — Recorder
68 Dictaphone Storage
69 Storage
70 Office
71 Office
72 Washroom
73 Isotopes
74 Electronics Room
75 Male Employees' Toilet
76 Female Employees' Toilet
77 Female Employees' Lockers — 5
78 Male Employees' Lockers — 5
79 Ultra-Violet Microscope
80 Dark Room
81 Machine Room
82 Experimental X-Ray
83 Sedimentation Room
84 Microscope Room
85 Electron Microscope
86 Office — Physicist
87 Office — Assistant
88 Special Room
89 Office — Secretary
90 Office — Director
91 General Office
92 Resident's Room
93 Bath Room
94 Linen Room


STAFF LIBRARY
DIRECTOR'S SUITE
DIRECTOR OF RESEARCH
NURSE'S ADMIN
ADMINISTRATION
BIO-PHYSICS LABORATORY
RECORDS
NURSES' LOCKERS
NORTH
CLERESTORY
TYPICAL NURSING UNIT - 43 BEDS
TYPICAL NURSING UNIT - 43 BEDS

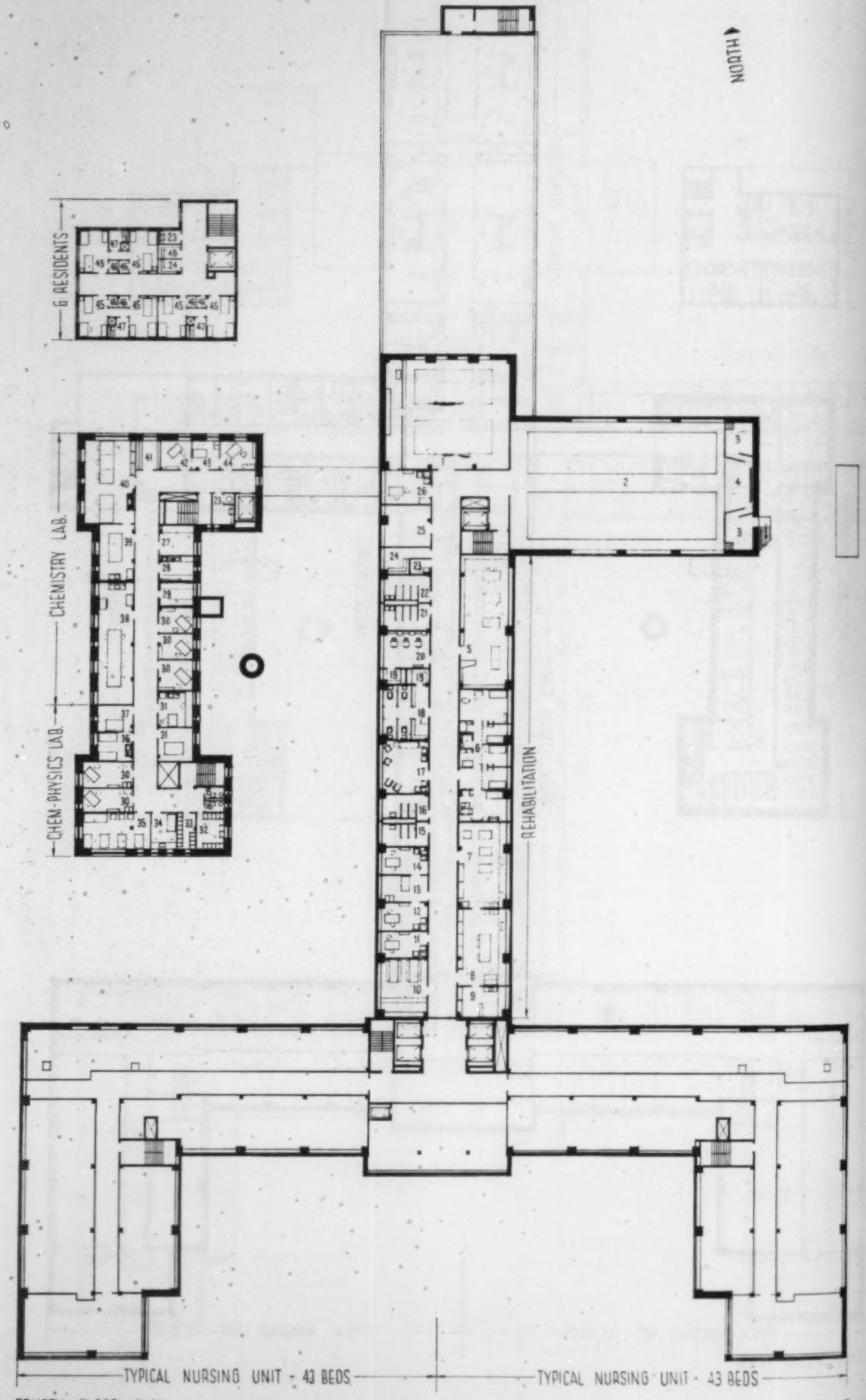
SECOND FLOOR PLAN


6 RESIDENTS
OPERATING DEPARTMENT
TUMOR PATHOLOGY LABORATORY
CENTRAL STERILE SUPPLY
DIRECTOR OF CANCER SURGERY
PHOTOGRAPHIC
LAB
TYPICAL NURSING UNIT - 43 BEDS
TYPICAL NURSING UNIT - 43 BEDS

THIRD FLOOR PLAN

1 Instrument Storage
2 Clean-up
3 Anesthesia Induction
4 Gallery — 12 Seats
5 Operating Room
6 Scrub-up Room
7 Sub-Sterilizing
8 Secretary's Office
9 Surgical Supervisor
10 Stock Supply
11 Radium Receiving
12 Stretchers
13 Anesthesia Storage
14 Chief Anesthetist
15 Nurses' Lounge
16 Nurses' Toilet
17 Nurses' Lockers — 26
18 Male Attendants' Lockers — 3
19 Male Attendants' Toilet
20 Doctors' Lockers — 24
21 Doctors' Toilet
22 Doctors' Lounge
23 Visiting Doctors' Lockers — 10
24 Frozen Section Laboratory
25 Janitors' Room
26 Directors' Office
27 Closet
28 Toilet
29 Examining Room
30 Secretary's Office
31 Unassigned
32 Staff Toilet — Male
33 Staff Toilet — Female
34 Storage
35 Maze
36 Chemical Preparation Room
37 Dark Room
38 Finishing Room
39 Office
40 Camera Room
41 Non-Sterile Stores
42 Solution Room
43 Work & Receiving Room
44 Sterile Stores
45 Operating Dept. — Sterile Supply
46 Tissue Examining
47 Preparation
48 Special Laboratory
49 Doctors' Office
50 Museum
51 Classroom
52 Male Lockers — 11
53 Female Lockers — 5
54 Slides & Records
55 Index Card Room
56 Secretary's Office
57 Washing & Sterilizing
58 Autopsy — 2 bodies
59 Toilet
60 General Laboratory
61 Office of Assistant
62 Office of Department Head
63 Resident's Room
64 Closet
65 Bath Room
66 Linen Closet
67 Storage

1	Chapel
2	Auditorium — 400 Seats
3	Anteroom
4	Stage
5	Patients' Library
6	Physical Therapy
7	Crafts — Rough
8	Crafts — Quiet
9	Preparation
10	Canteen
11	Office — Occupational Therapist
12	Office — Director of Rehabilitation
13	Office — Secretary
14	Office — Psychiatrist
15	Employees' Toilet — Male
16	Employees' Toilet — Female
17	Sedentary Room
18	Beauty Parlor
19	Storage
20	Barber Shop
21	Patients' Toilet — Male
22	Patients' Toilet — Female
23	Janitors' Room
24	Storage
25	Unassigned
26	Chaplain's Office
27	Balance Room
28	Dark Room
29	Refrigerated Room
30	Office
31	Infra-Red Spectrophotometry
32	Female Lockers — 12
33	Male Lockers — 12
34	Ultra-Centrifuge
35	Computing Room
36	Tiselius Electrophoresis
37	Ultra-Violet Spectrophotometry
38	Auxiliary Chem. — Physics Laboratory
39	Clinical Laboratory
40	Clinical Laboratory
41	Storage
42	Office of Clinical Chemist
43	Office of Secretary
44	Office of Principal Bio-Chemist
45	Resident's Room
46	Closet
47	Bath Room
48	Linen Closet


NORTH
6 RESIDENTS
CHEMISTRY LAB.
CHEM-PHYSICS LAB.
REHABILITATION
TYPICAL NURSING UNIT - 43 BEDS
TYPICAL NURSING UNIT - 43 BEDS
0 5 10 20 30 40

FOURTH FLOOR PLAN

Sigurd Fischer Photos

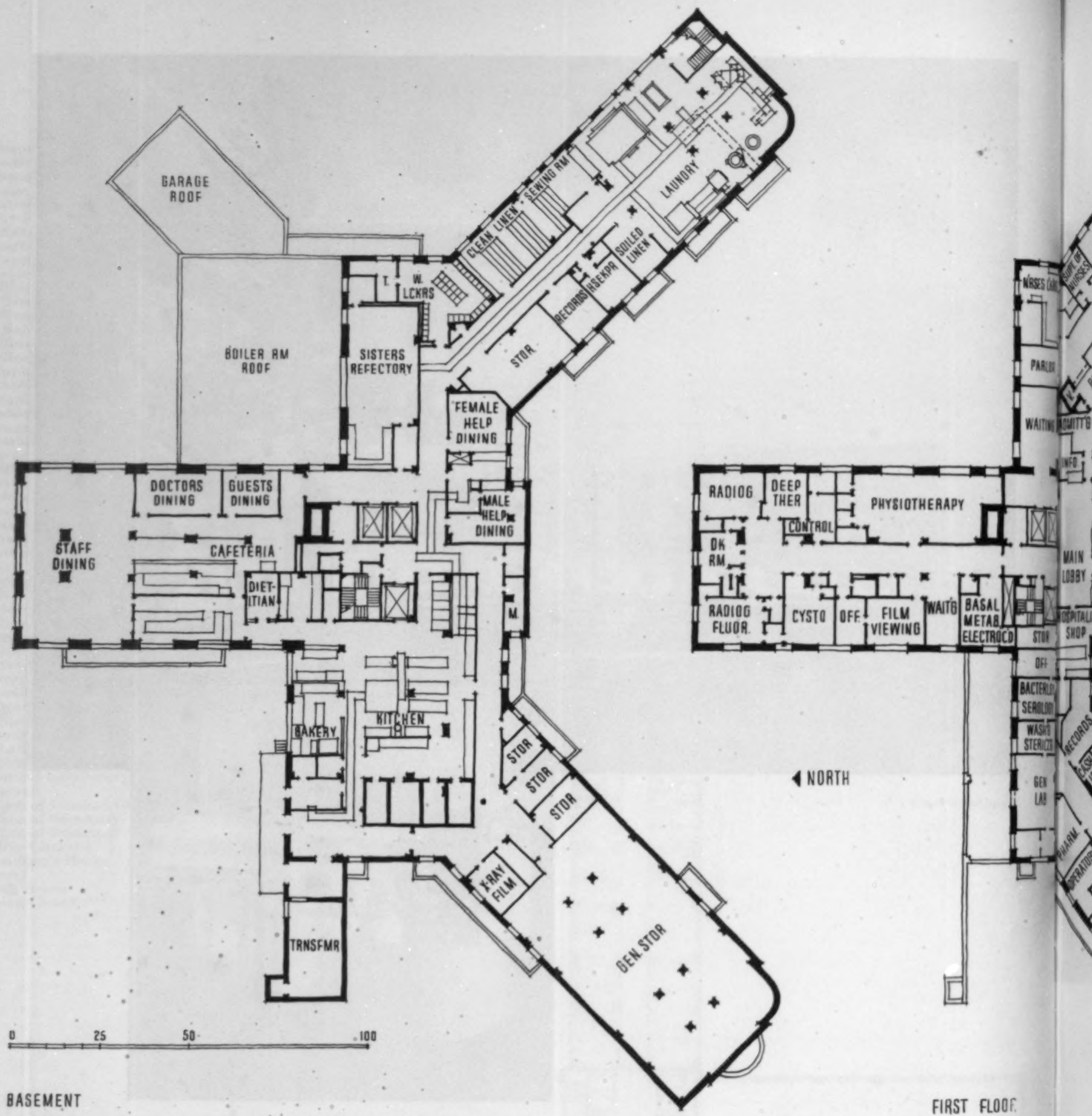
ST. CLARE'S HOSPITAL

Schenectady, New York

York & Sawyer, Architects

In the category of a general hospital, this one comes about as close as possible to a "standard." It receives no federal or state aid, and thus is not particularly designed within the requirements of the Hill-Burton Act, but is actually quite comparable. But since the hospital was to be a completely new institution, without fixed systems of operation, the plan was kept fairly well formalized and the relations between departments kept as nearly as possible to a standard arrangement. Although it was originally conceived and will be run as a Catholic Hospital, other faiths are represented on the Board, so that it is truly non-sectarian, and strictly typical in every factor from fund-raising to planning.

Planning was left entirely in the hands of the architects,


GARAGE ROOF
BOILER RM ROOF
SISTERS REFECTORY
T.
W. LCKRS
CLEAN LINEN
SEWING RM
LAUNDRY
RECORDS
HSEKPR
SOILED LINEN
STOR
FEMALE HELP DINING
MALE HELP DINING
DOCTORS DINING
GUESTS DINING
STAFF DINING
CAFETERIA
DIET-ITIAN
M.
KITCHEN
BAKERY
STOR
STOR
STOR
X-RAY FILM
GEN. STOR
TRNSFMR
0
25
50
100
RADIOG
DEEP THER
PHYSIOTHERAPY
CONTROL
DK RM
RADIOG FLUOR.
CYSTO
OFF
FILM VIEWING
WAIT'G
BASAL METAB ELECTROCD
NORTH
NRSES CARE
SUPT OF NURSES
PARLOR
WAITING
ADMITT'G
INFO
MAIN LOBBY
HOSPITAL SHOP
STOR
OFF
BACTERIOL SEROLOGY
WASH'G STERILIZ'G
RECORDS
GEN LAB
PHARM
OPERATOR

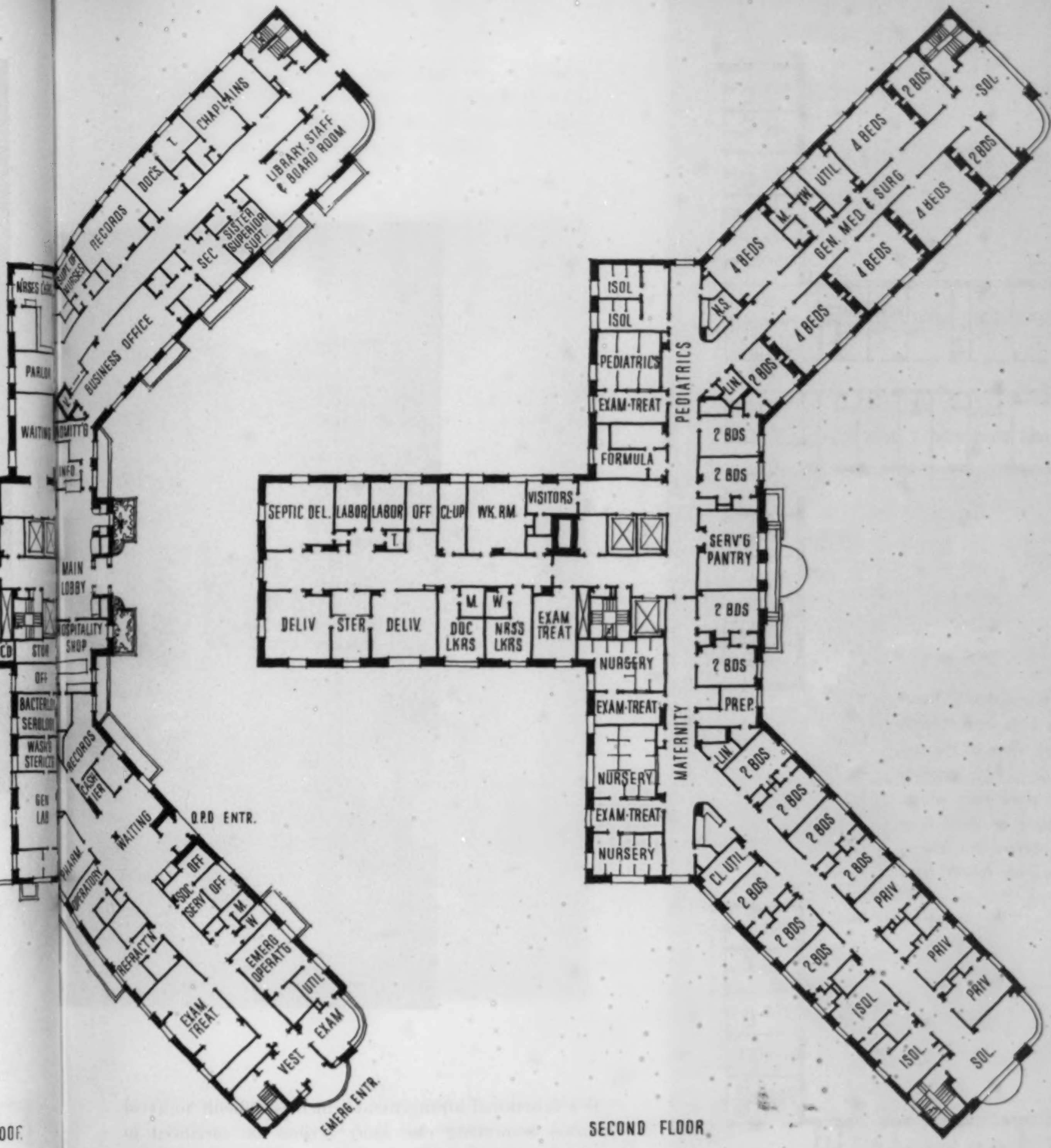
BASEMENT

FIRST FLOOR

with various Sister superintendents of other hospitals as their consultants. Several doctors and surgeons in the community also met in informal committees with the architects on matters of local practices and needs.

The site consists of about 18 acres, and the building was planned to take advantage of the natural slope for three different entrance levels. The power plant, garages, maintenance shops, together with an undertaker and autopsy suite, all have natural access to the sub-basement level. Since the hospital is to be run entirely by female staff, a men's locker room, together with three small bedrooms have been located on this floor for the engineering staff who live in, as far removed from the female staff in residence as possible.

The main receiving platform on the basement level is located closely adjacent to the kitchen and to the general hospital storage area, so that delivery of goods can be made on a level and stored without use of elevator or stairs. On the east side of the hospital on this level, where the grade is higher, are located the main dining rooms for staff, with a separate Sisters' dining room, called refectory, closely adjacent to the main elevator lobby, so that both may be reached without getting into the basement corridors. It will be noted

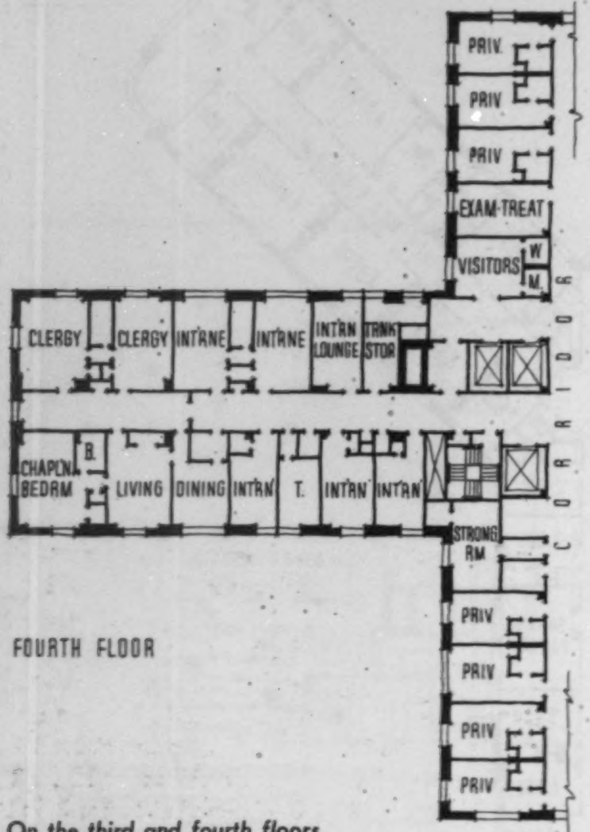

CHAPLAINS
DOCS
T
RECORDS
LIBRARY, STAFF & BOARD ROOM
SUPT. OF NURSES
SEC
SISTER SUPERIOR SUPT.
BUSINESS OFFICE
NRSES
PARLOR
WAITING
ADMITT'G
INFO
MAIN LOBBY
HOSPITALITY SHOP
STOR
OFF
BACTERIOL
SEROLOGY
WASH & STERILIZE
GEN LAB
RECORDS
CASHIER
WAITING
O.P.D. ENTR.
PHARM.
OPERATORY
REFRACT'N
OFF
SOC SERV
OFF
M
W
EMERG OPERAT'G
UTIL
EXAM TREAT
EXAM
VEST
EMERG. ENTR.
OOR
SEPTIC DEL.
LABOR
LABOR
OFF
CL-UP
WK. RM.
VISITORS
T
DELIV
STER
DELIV
M
W
DOC LKRS
NRSS LKRS
EXAM TREAT
ISOL
ISOL
PEDIATRICS
EXAM-TREAT
FORMULA
PEDIATRICS
NURSERY
EXAM-TREAT
NURSERY
EXAM-TREAT
NURSERY
MATERNITY
2 BDS
2 BDS
SERV'G PANTRY
2 BDS
2 BDS
PREP
N.S.
LIN
2 BDS
4 BEDS
4 BEDS
4 BEDS
4 BEDS
M
W
UTIL
GEN. MED. & SURG.
4 BEDS
4 BEDS
2 BDS
SOL
2 BDS
LIN
2 BDS
2 BDS
2 BDS
2 BDS
CL UTIL
2 BDS
2 BDS
2 BDS
PRIV
PRIV
PRIV
ISOL
ISOL
SOL

SECOND FLOOR

that the service elevator is so arranged as to have access to the basement service corridors and completely segregated from the passenger elevators, so that easy access can be had to the housekeeper's suite, laundry, and linen exchange, as well as to the female locker rooms. It will also be noted that the main kitchen serves directly into the hospital service elevator for distribution of food to the bed floors by means of heated food cart circulation.

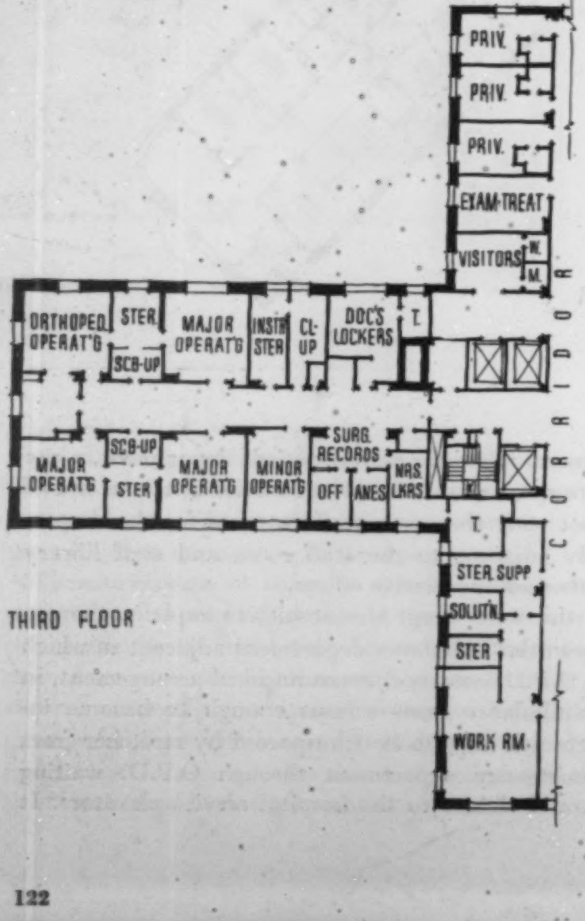
On the first floor, access from the main lobby to the administration quarters and to the main elevator lobby can be had without getting into the corridors serving the general laboratories, out-patient department, x-ray department, or other hospital functions. At the end of the east wing there is a staff entrance for the doctors directly adjacent to the staff room and staff library and other administrative offices.

On the west wing, the architects explain, the entrance to the ambulance department adjacent to which is the O.P.D. entrance, is not an ideal arrangement, in that ambulance cases serious enough to become inpatients will have to be transported by stretcher from the emergency department through O.P.D. waiting room, and thence to the hospital service elevators. It


PRIV.
PRIV
PRIV
EXAM-TREAT
VISITORS
W
M
CLERGY
CLERGY
INT'RNE
INT'RNE
INT'RN LOUNGE
TRNK STOR
B.
CHAPL'N BEDRM
LIVING
DINING
INT'RN
T.
INT'RN
INT'RN
STRONG RM
PRIV
PRIV
PRIV
PRIV
CORRIDOR

FOURTH FLOOR

On the third and fourth floors the nursing units are virtually identical with those of the second floor (p. 111); portions here given show rear wings: operating suite on third floor (below), quarters for clergy and internes on fourth floor


PRIV.
PRIV.
PRIV.
EXAM-TREAT
VISITORS
W
M
ORTHOPED. OPERAT'G
STER
SCB-UP
MAJOR OPERAT'G
INSTR STER
CL-UP
DOC'S LOCKERS
T.
SCB-UP
SURG. RECORDS
MAJOR OPERAT'G
STER
MAJOR OPERAT'G
MINOR OPERAT'G
OFF
ANES
NRS. LKRS
T.
STER. SUPP
SOLUT'N
STER
WORK RM
CORRIDOR

THIRD FLOOR

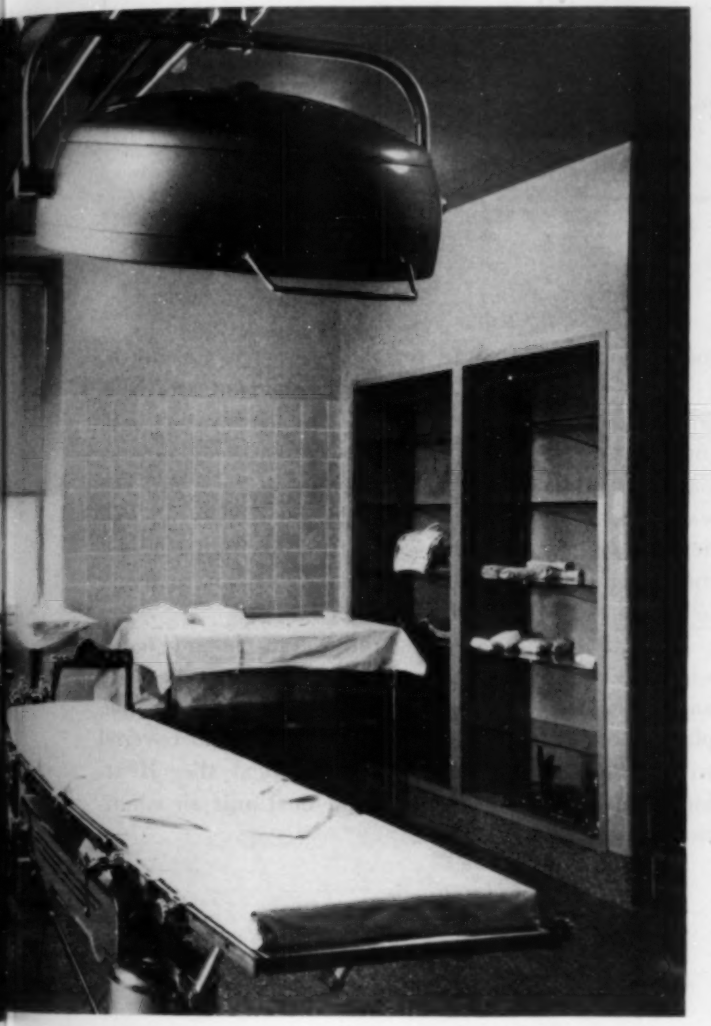
is a functional arrangement which is difficult to avoid unless something else more serious be sacrificed to obtain another grade entrance, which in this case was impossible.

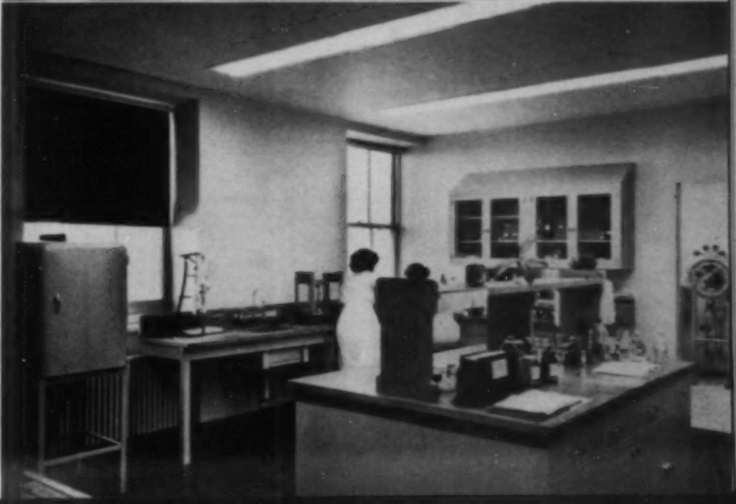
It will be noted that the location of the O.P.D. in close proximity to the general laboratories, and x-ray department, is good; it will eliminate the necessity for ambulatory out-patients to become involved in the circulation of the general hospital.

The second floor consists of maternity division, together with the obstetrical suite, and a small pediatrics section. Originally this entire floor was to be devoted to maternity cases, and all of the beds on the floor were to be so designated. It was later decided that funds would not be available for completion of one entire floor, the fourth in the building, and that the reduction of beds necessary, because of this cut-back, would eliminate the necessity or desirability for an entire floor

Below: typical major operation room. Right, top to bottom, typical solarium, convertible to bed space in emergencies; work room for operating suite, sterilizing alcove in background; view of nursery; and the general laboratory, first floor

Sigurd Fischer Photos





devoted to maternity. At that time the administration of the hospital decided that the nurseries on the east side of the main corridor on this floor should be devoted to infant pediatrics, with the partition work arranged substantially as needed for infant newborn nurseries, so that if and when the entire floor be turned back to maternity, these needed nurseries could be reinstated. As the plans are published, the pediatrics department is therefore a functional makeshift. Discussions are now under way for returning this entire floor to maternity and redisposing the infant pediatric spaces back to infant newborn bassinets. Pediatrics in this latter case will be relocated on the fourth floor in a segregated wing, which is of course the proper way.

The total construction cost of the building is $2,788,112, which, together with the cost of fees, supervision, etc. results in a cost per cubic foot of $1.83, inclusive of fees but without the cost of movable equipment.

TUBERCULOSIS HOSPITAL Decatur, Alabama

Charles H. McCauley, Architect; Whitten, Snook and Adams, Associated Architects

THE more enlightened concept of hospital care is here illustrated in a specialized type of hospital for the care of T.B. patients. This one points up the current idea that a hospital for long-time care has even more reason for close attention to psychological factors than has a general hospital.

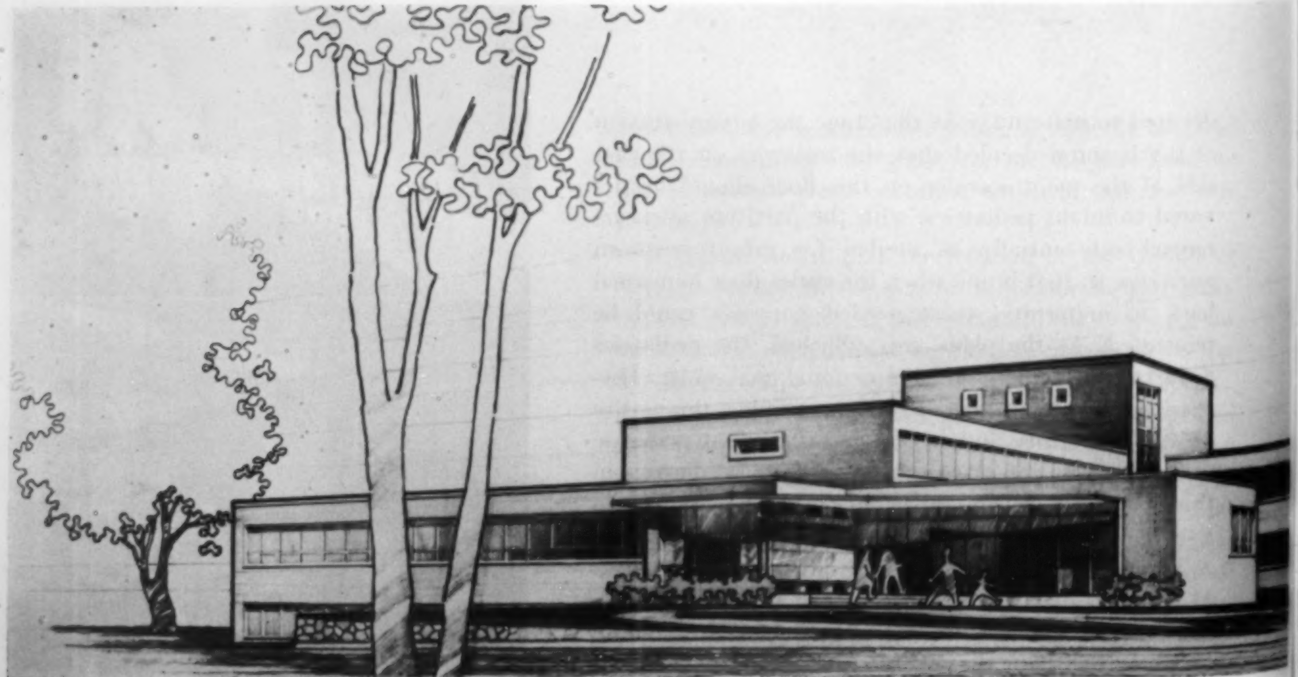
So this one puts its patients in a quiet country location. It takes them into pleasant, attractive quarters. It offers not only good medical care but also things like occupational therapy and psychological and rehabilitation treatment. And, very importantly, it rejects the large ward in favor of a three-bed unit. There is a large out-patient department also.

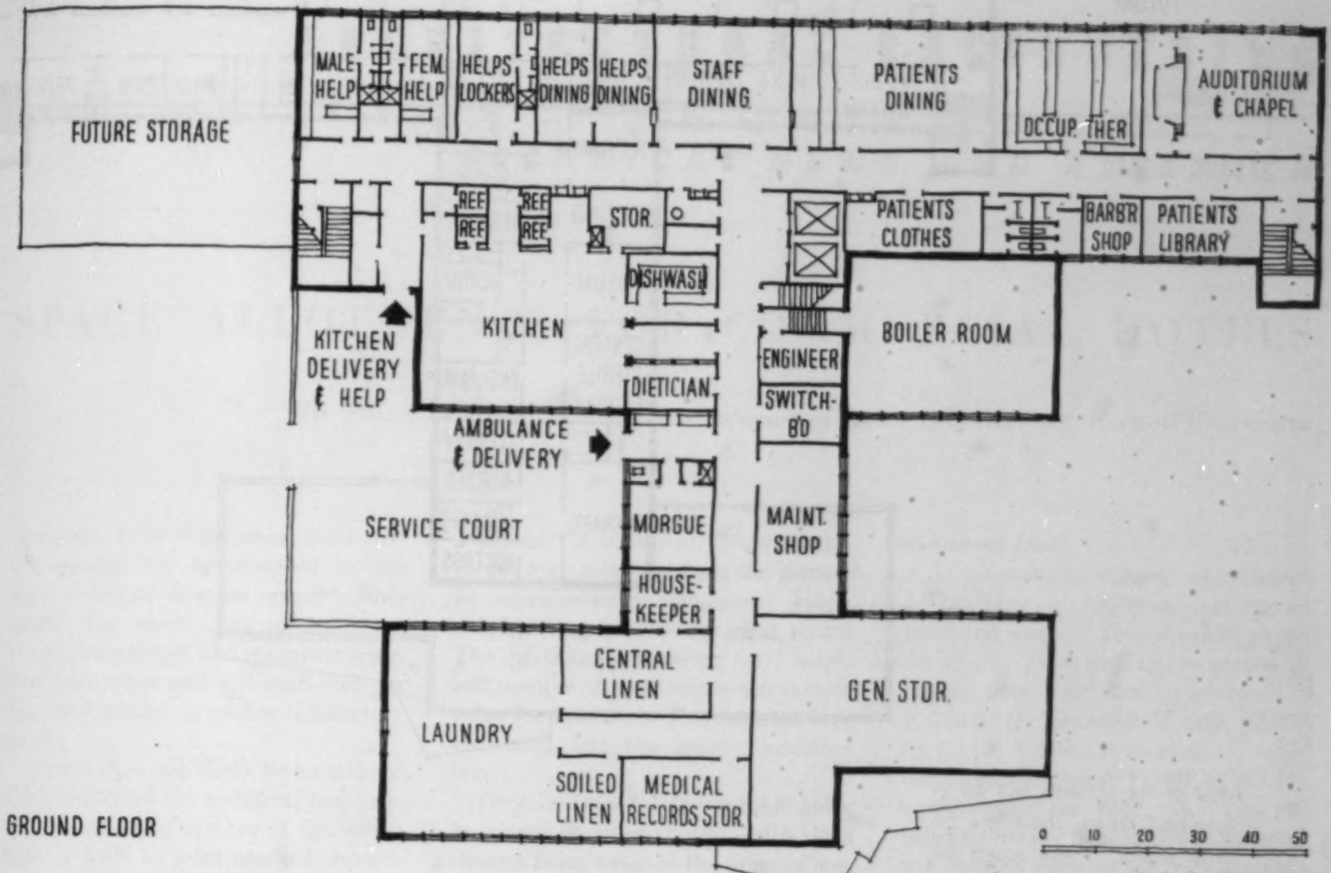
In general the various elements follow closely the suggestions of the U. S. Public Health Service. Nursing units have the offset corridor with most of the patient rooms facing south and service rooms on the north.

The three-bed room is an innovation; the three beds are aligned perpendicular to the wall. The lavatory is in the bedroom for the use of the patient, nurse and doctor. Each patient has his own clothes closet in the room. The water closet, with bedpan washing attachment and dental basin, is in an interconnecting location between rooms. Oral hygiene of the semi-ambulant patient would be permitted only at the dental basin.

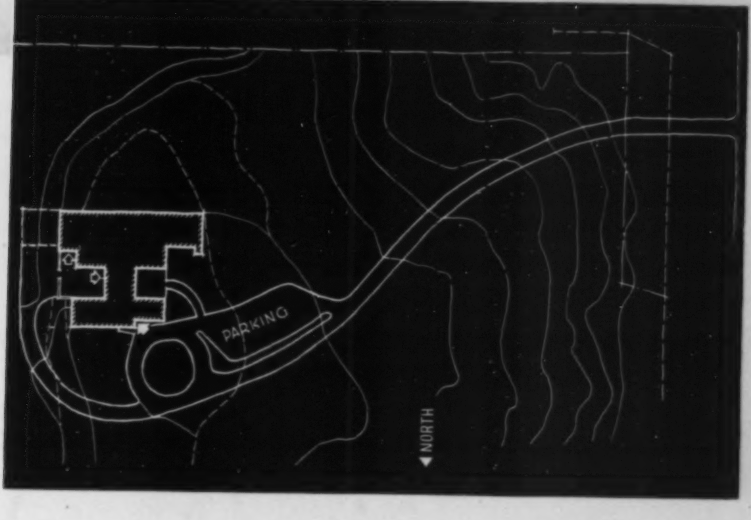
The building is to have concrete frame, concrete floors with tile filler, brick exterior with terra cotta back-up and limestone trim. Interior partitions will be tile, plaster and glazed tile finish. Floors will be covered with rubber tile, ceilings with acoustical tile. Heating will be steam; surgical and medical unit air conditioned.

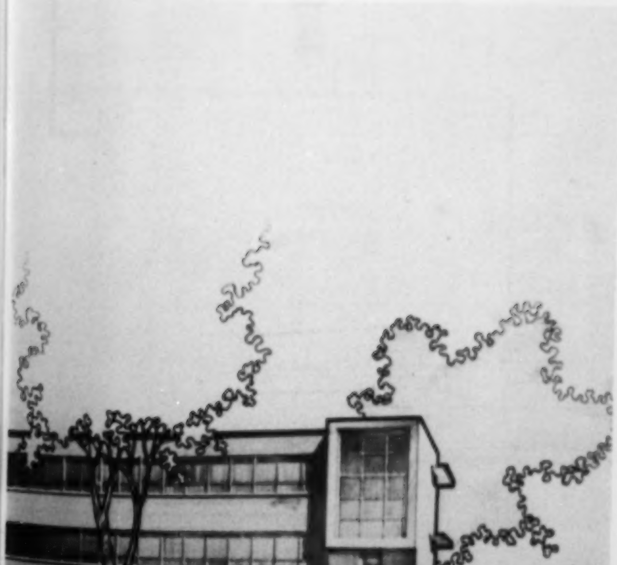
R. H. Adams Del.



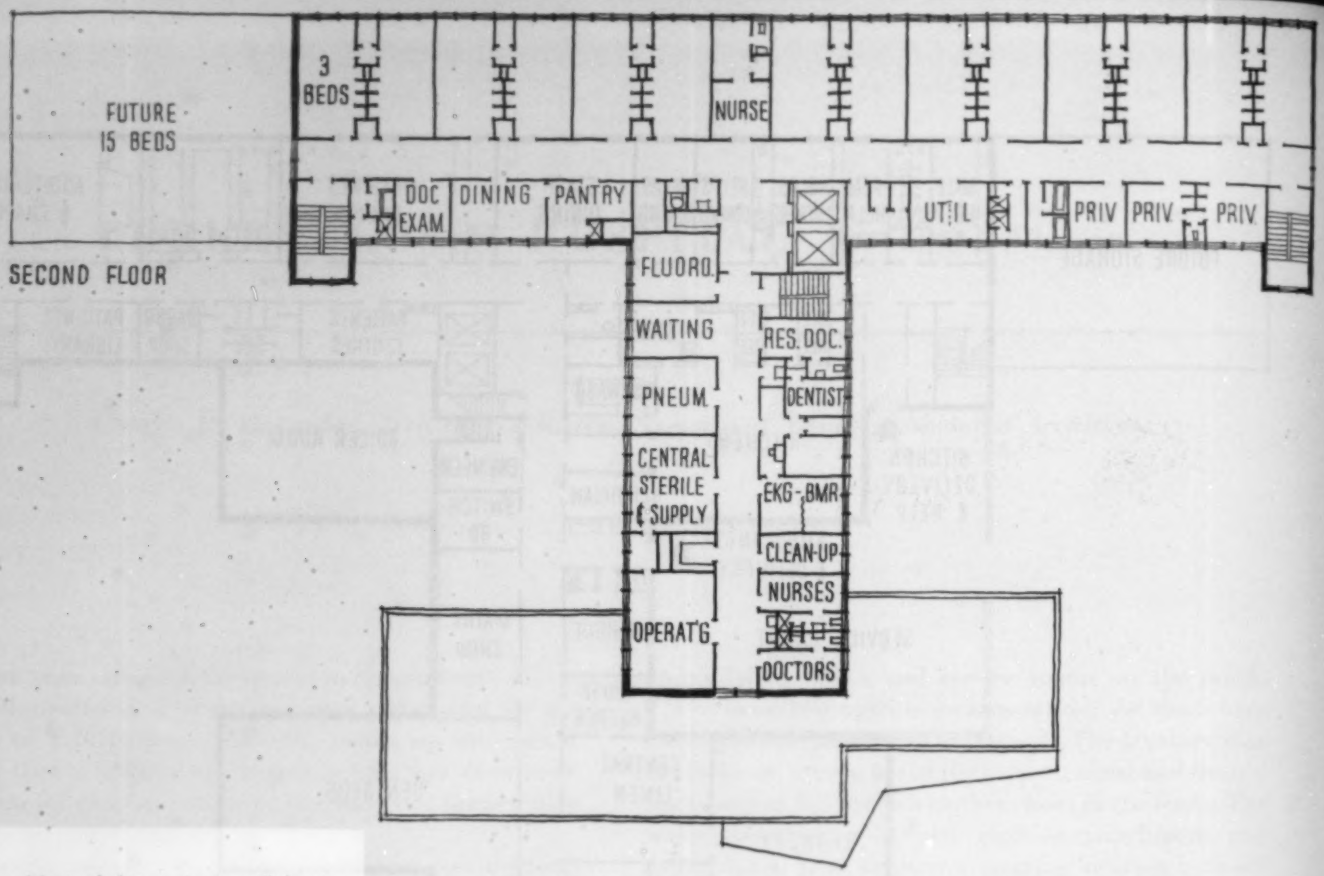

FUTURE STORAGE
MALE HELP
FEM. HELP
HELPS LOCKERS
HELPS DINING
HELPS DINING
STAFF DINING
PATIENTS DINING
OCCUP. THER.
AUDITORIUM & CHAPEL
REF
REF
REF
REF
STOR.
DISHWASH
PATIENTS CLOTHES
BARB'R SHOP
PATIENTS LIBRARY
KITCHEN DELIVERY & HELP
KITCHEN
ENGINEER
BOILER ROOM
DIETICIAN
SWITCH-BD
AMBULANCE & DELIVERY
SERVICE COURT
MORGUE
MAINT. SHOP
HOUSE-KEEPER
CENTRAL LINEN
GEN. STOR.
LAUNDRY
SOILED LINEN
MEDICAL RECORDS STOR.
0
10
20
30
40
50

GROUND FLOOR

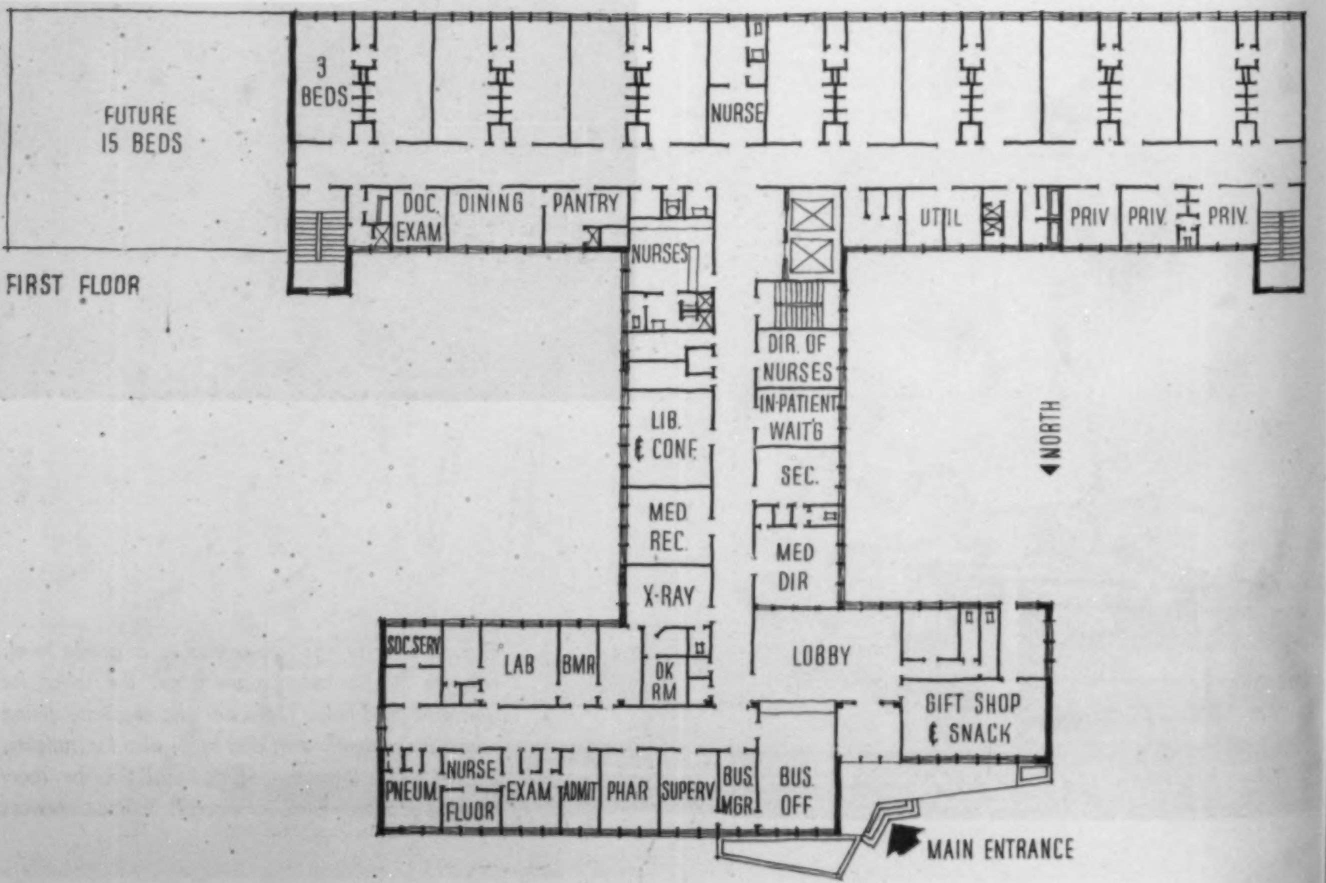

PARKING
NORTH


CHAS. H. McCAULEY AIA
WHITTEN · SMOOK · and ADAMS ·
Architects

Ground floor brings two entrances at grade level, one for the ambulance entrance, the other for deliveries and help. There are also separate dining rooms for patients, staff and help; also for patients, barber shop, library, occupational therapy room and auditorium; and, of course, various services


SECOND FLOOR
FUTURE 15 BEDS
3 BEDS
NURSE
DOC EXAM
DINING
PANTRY
UTIL
PRIV
PRIV.
PRIV.
FLUORO.
WAITING
PNEUM.
CENTRAL STERILE & SUPPLY
OPERAT'G
RES. DOC.
DENTIST
EKG-BMR
CLEAN-UP
NURSES
DOCTORS

Most of the patients will be in three-bed rooms; there are no large wards. These rooms all have south orientation. There are a relatively small number of private rooms, these taking less desirable outlook. Normally the two end units would be used as day rooms for patients


FIRST FLOOR
FUTURE 15 BEDS
3 BEDS
NURSE
DOC. EXAM
DINING
PANTRY
UTIL
PRIV
PRIV.
PRIV.
NURSES
LIB. & CONF.
MED REC.
X-RAY
DIR. OF NURSES
IN-PATIENT WAIT'G
SEC.
MED DIR
NORTH
SOC. SERV.
LAB
BMR
DK RM
LOBBY
GIFT SHOP & SNACK
PNEUM.
NURSE
FLUOR
EXAM
ADMIT
PHAR
SUPERV
BUS. MGR.
BUS. OFF
MAIN ENTRANCE

SPACE ALLOTMENTS FOR COMMERCIAL HOTELS

By Frank Harrison Randolph, Professor of Hotel Engineering, Cornell University

Architects of commercial hotels frequently are handicapped by the lack of factual data on space requirements. Too much space results in excessive investment and operating costs. Too little space makes it impossible for the hotel owners to realize satisfactory profits.

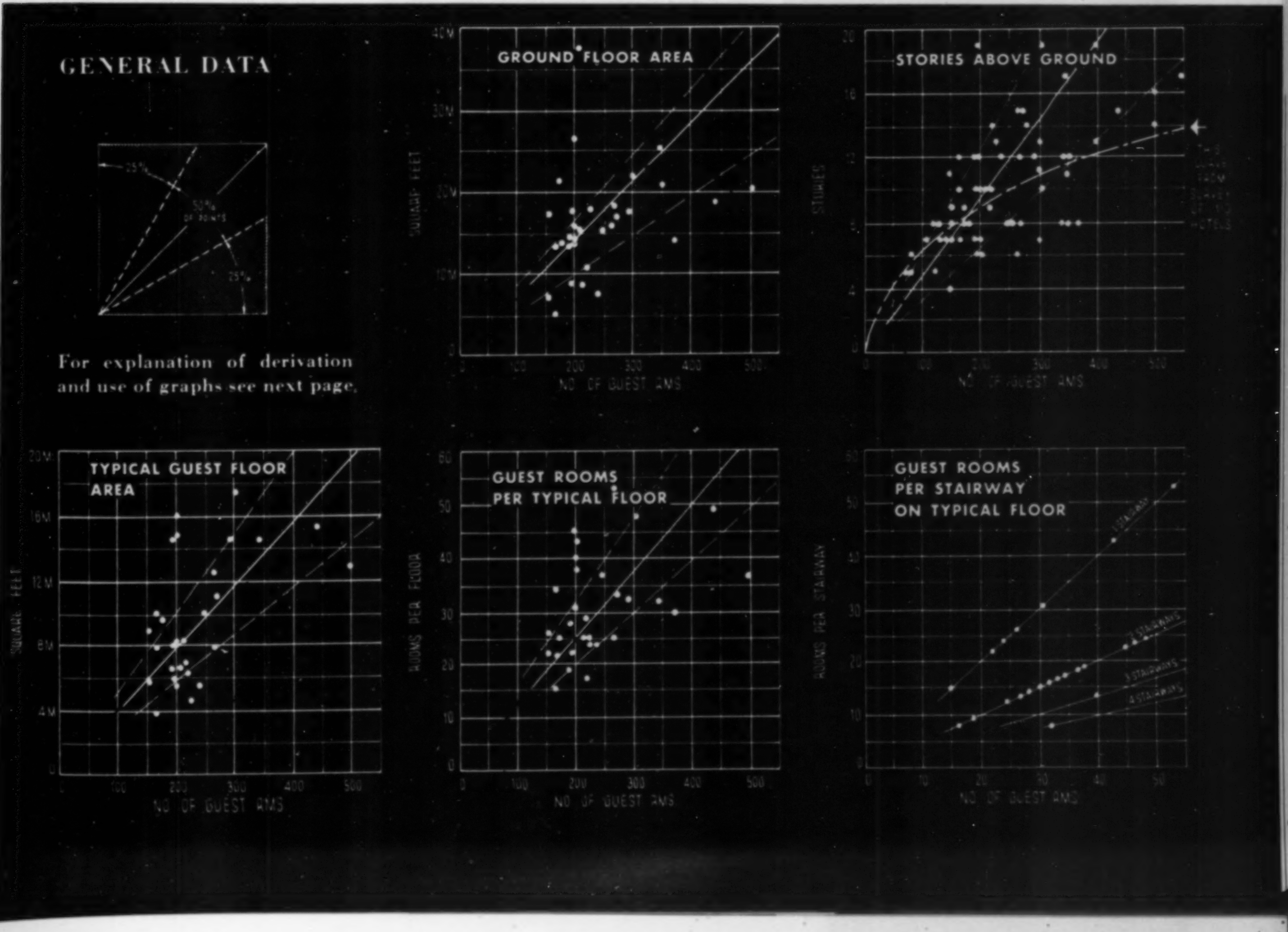
Information can likely be located for a few hotels by the architect, but some may be of wrong size, or of the wrong type or built to meet unusual requirements. The remaining data is apt to be inadequate. This was found to be the case in the writer's class in "Hotel Planning." Consequently, space allotments were measured from the plans of 33 representative commercial hotels, ranging from 125 to 500 guest rooms. The relationship between hotel height and number of guest rooms was investigated for 110 hotels. This data has been translated into the graphs contained here.

They are intended as a reliable guide in planning future hotels, with such changes being made as the times or customs may require, but not going too far from long established values without adequate reason.

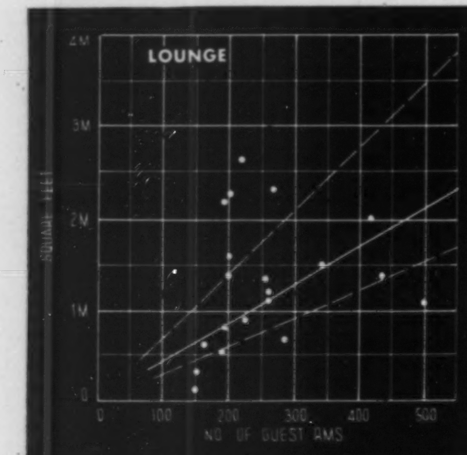
General Data

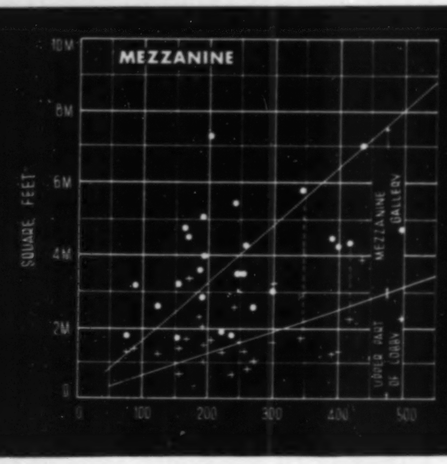
As an example, suppose an architect is planning a 300-room commercial hotel and wants to know its chief physical aspects. From the first few graphs on general data, the following information is found: (1) ground floor area, 22,000 sq ft; (2) height, 11 stories; (3) typical guest floor area, 12,000 sq ft; (4) guest rooms per floor, 38. With 38 guest rooms per floor, a 300-room hotel will require eight typical floors. This leaves three stories for the lobby floor, mezzanine and possibly a ground floor devoted to stores or a service floor.

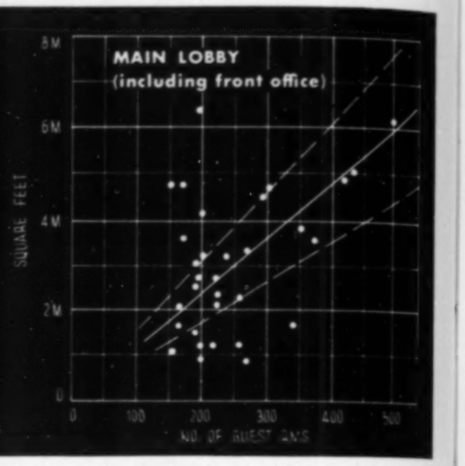
GENERAL DATA

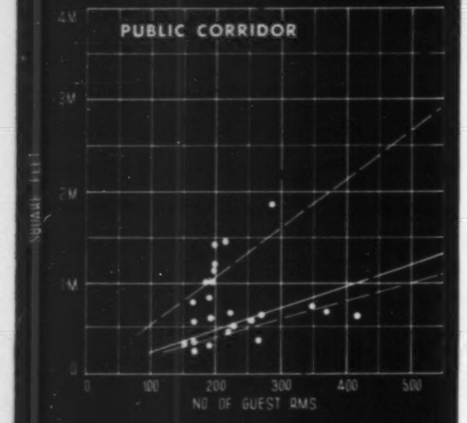


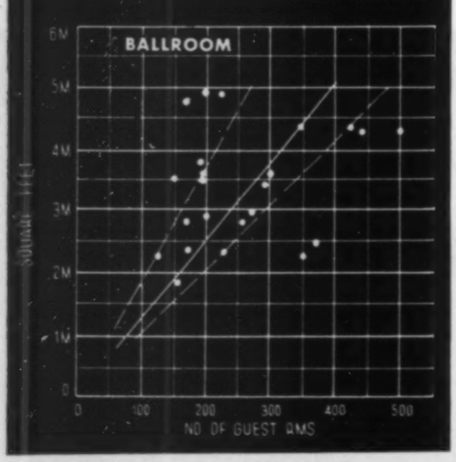
For explanation of derivation and use of graphs see next page.











EXPLANATION OF DERIVATION AND

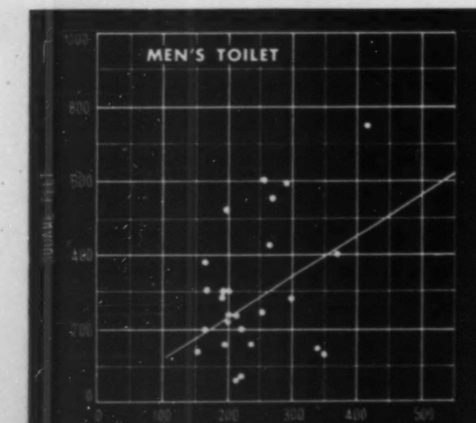
To convert the mass of data accumulated from the hotel plans investigated to a clear and usable form, each space or other factor was put on a separate chart, with the number of guest rooms on the base line. Then a point was plotted for the value obtained for each hotel. The result was a chart that was peppered with points, often rather widely scattered. Seldom did the arrangement of the points encourage one to attempt to draw a line through them.

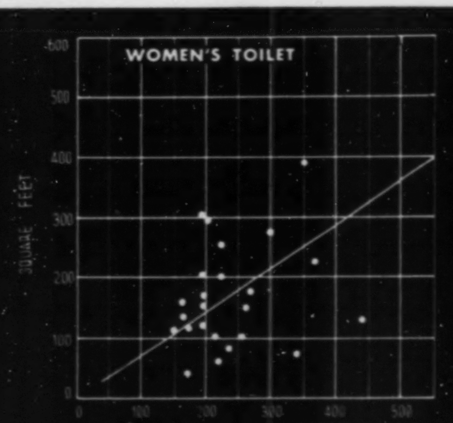
Through the field of points on the graphs, a solid diagonal line was drawn to show the median trend. This line was started at the lower left corner, at the "zero-zero" value. The line was located by trial so that half the points were above it and half below it. On graphs that had sufficient points to warrant, two broken diagonal lines were drawn in addition. The upper broken diagonal has one-fourth of the total points above it and the lower broken diagonal has one-fourth of the total points below it. Thus the area between the two broken diagonals contains half the points and may be considered as the usual range encountered in practice.

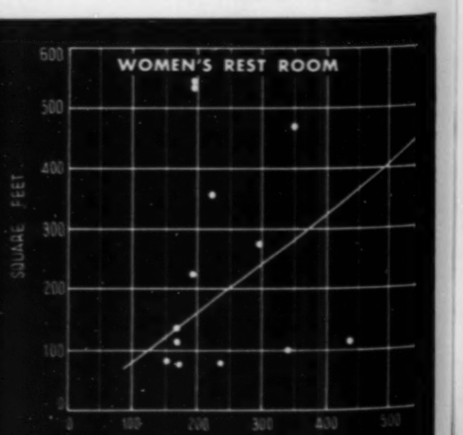
Each trend line has been drawn straight because the data points were insufficient to justify the location of a smooth curve, with the exception of the Stories Above Ground graph.

The relationship between stories above ground and number of guest rooms was investigated for 110 hotels, including a number of 1000 rooms and over (the graph shows only that portion of the curve up to 550 rooms).

PUBLIC SPACE







Each of these foregoing values is an approximation which may need revision as plans develop. It is evident, however, that expectations can be determined at a glance without requiring an assortment of assumptions, tedious calculations or extensive experience with hotel structures.

The graph on stairways shows that most of the hotels investigated have two stairways through guest floors. Usual practice is to have not more than 30 rooms per stairway on the typical guest floor. The average hotel has about 16 or 18 guest rooms per stairway.

USE OF GRAPHS

The plotted points were scattered widely, but a curve of parabolic form drawn through them showed the trend satisfactorily.

Presenting the data in the form of these graphs offers several advantages. The reader immediately sees about how many cases are represented. The relative divergence of the data is obvious. An exceptional case or two has no great influence on the trend line, in contrast to taking an average value which may be influenced considerably by one abnormally high or low figure.

These studies are not presented as the final word on space allotments. They indicate a good method which may serve as a basis for more extensive work and probably slight revisions in the trend lines.

Public Space

The Main Lobby graph indicates 12 sq ft of lobby area per guest room. The lounge was indicated for 65 per cent of the hotels investigated, with about 4 sq ft being provided per guest room. Many hotels use a part of the lobby or mezzanine gallery as the lounge, although it is not specifically designated as such on the plans.

The mezzanine was shown for 70 per cent of the hotels. For each hotel on this graph, two points were plotted — a dot for the mezzanine area and a cross for the upper part of the lobby or "well hole." In several cases these points were connected by a dotted line to emphasize this fact. For example the 345 room hotel had a gross area of 5800 sq ft for the mezzanine and 1800 sq ft for the well hole. The gallery area is the difference between these values or 4000 sq ft.

The ballroom was shown in 70 per cent of the designs studied. From 10 to 18 sq ft of ballroom area per guest room is usual, with 12½ sq ft being the median value.

Ballroom storage (graph not included) is often omitted to the inconvenience of the management in storing tables and chairs. Where provided, it is about 10 per cent of the ballroom area or a little more.

A ballroom serving pantry (graph not included) is needed for banquet service unless the main kitchen is adjacent to the ballroom. The pantry is typically 22 per cent of the ballroom or banquet room area.

In providing public toilet facilities for guests, about 1 sq ft of men's toilet area is furnished per guest room. About 1½ to 2 sq ft per guest room is allotted for the corresponding facilities for women, half of this area being used for the women's rest room and half for the women's toilets.

Concession and Sub-Rental Space

The barber shop is allotted 2½ sq ft per guest room. The valet shop (graph not included) is customarily found in the larger hotels — a little over 1 sq ft per guest room. Often it is not specifically provided in the plans, and the management is forced to convert some service area to this use.

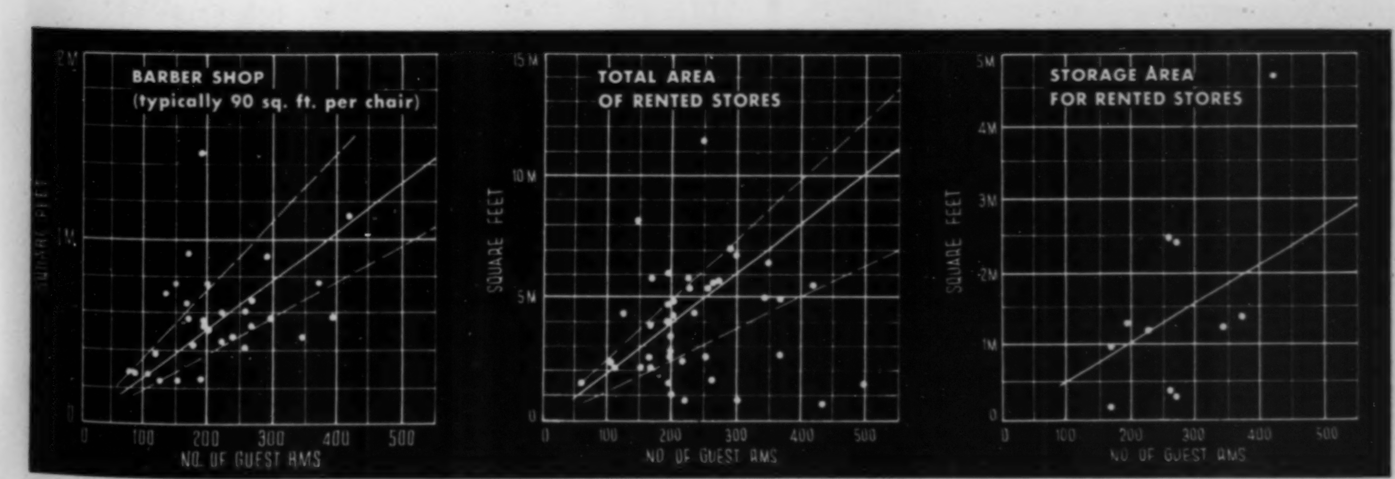
Rented stores are important because the income from them is required to carry the premium cost of a choice location for the commercial hotel. Typically, 20 sq ft of rented store area is provided per guest room. About 2½ stores are provided per 100 guest rooms. The rental value of a store is enhanced considerably if the store is provided with a low rental value storage area, often in the basement.

Food and Beverage Space

Most hotels have a main dining room, with 9 sq ft being provided per guest room. Some hotels have only a coffee shop or its equivalent with 7 sq ft per guest room as the typical value. Many hotels have both facilities. The trend is to minimize the main dining room in present day practice because of the difficulty in operating it profitably.

In planning private dining rooms, the architect must become acquainted with the local demand. The graphs on these are valuable, however, in showing normal expectations.

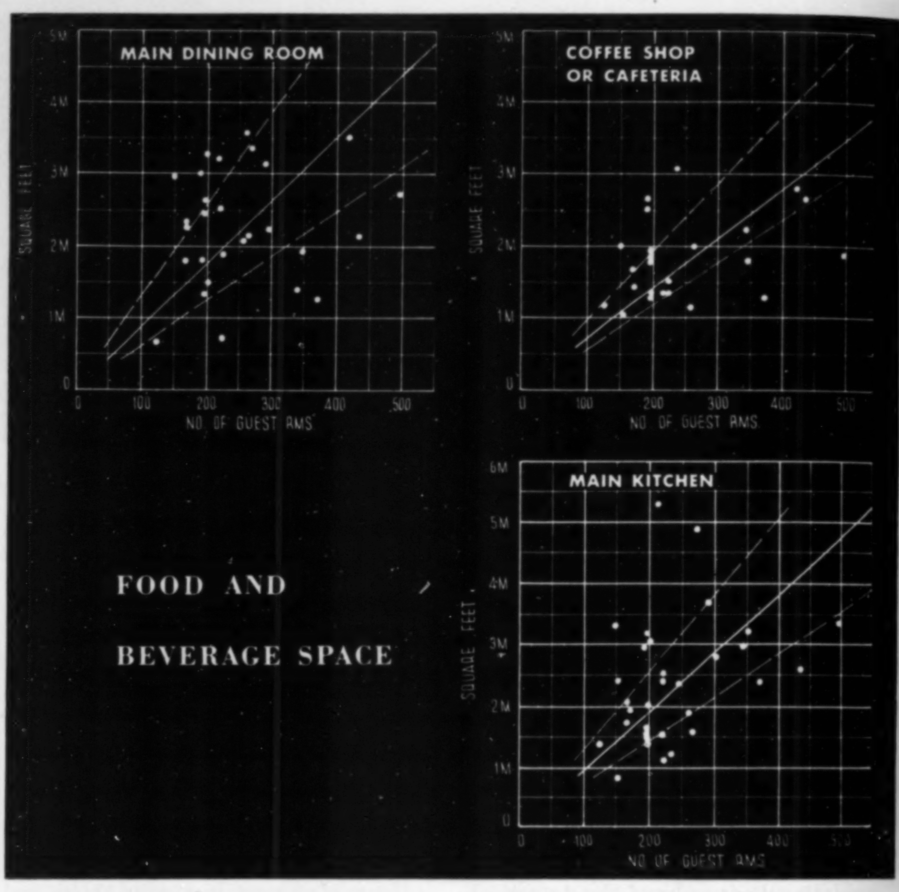
CONCESSION AND SUB-RENTAL SPACE



Data plotted for the barroom were obtained by correspondence with about two dozen hotels to ascertain conditions as of 1949.

Once the scope of the food business is determined, the ratio of the several food service areas, one to another, becomes significant. Main dining rooms usually are about 80 per cent of the main kitchen. Only one-fourth of the main dining rooms exceeded 118 per cent of the kitchen while only one-fourth are less than 69 per cent of the kitchen.

When an auxiliary kitchen is provided, the coffee shop is nearly four times this area.



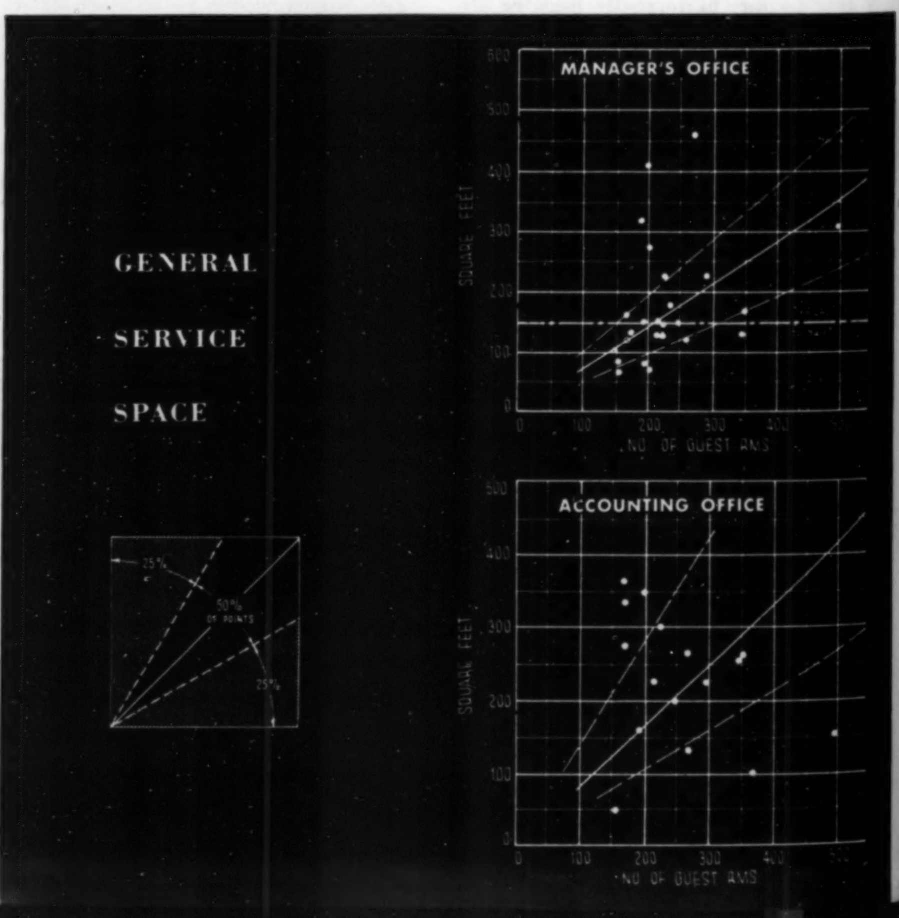
General Service Space

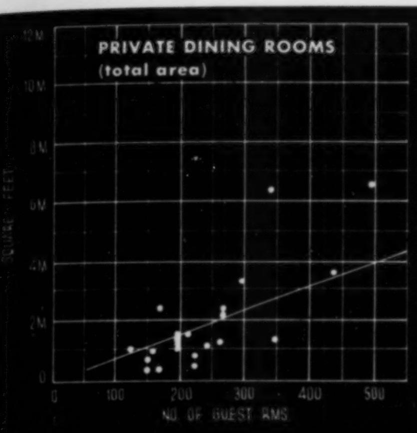
General service space includes the working quarters of the hotel and the administration offices, exclusive of food beverage space. The wide variations in area for the manager's office are not surprising. Possibly the larger offices were due to the insistence of the manager or the generousness of the architect. This office for one individual is typically 150 sq ft, regardless of hotel size. The accounting office can be expected to require more personnel in the larger and more complex hotels than in the smaller ones. It is often omitted from the plans, requiring the management to sacrifice one or two guest rooms for the purpose.

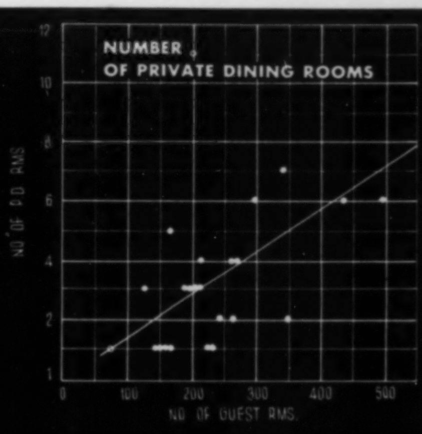
The central linen room was shown on only half the plans studied. Having a central point from which linens are distributed is quite essential in maintaining proper control and in reducing delays.

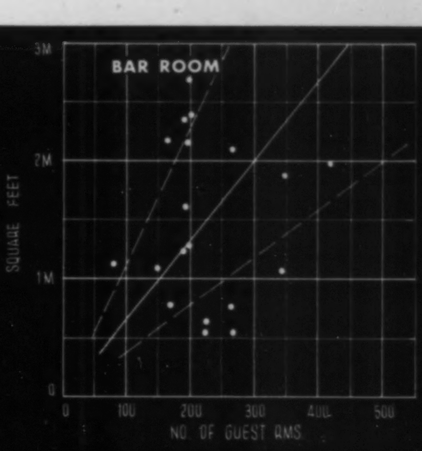
A laundry is customarily installed in larger hotels but not in small ones. Half of the 200-room hotels have their own laundry, according to a survey by the American Hotel Association. Around 5 or 6 sq ft per guest room includes allowance for restaurant linen. For extensive guest laundry work, 7 or 8 sq ft may be needed.

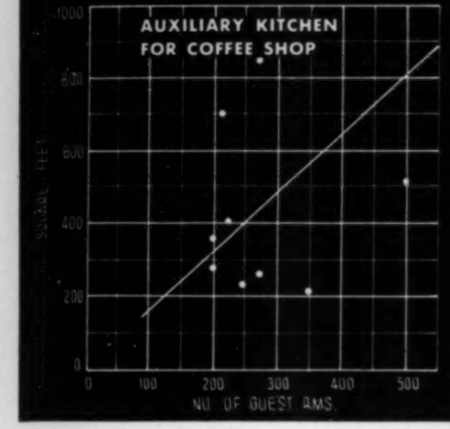
The engineering and maintenance spaces are neglected too often. The following figures commonly apply (per guest room): 6.6 sq ft of boiler room, 1.7 sq ft of fuel storage, (graphs not included for remaining) 1.6 sq ft of carpenter-and-furniture workshop, 3.2 sq ft of machinery (and refrigeration) space, 2.2 sq ft of furniture and trunk storage space, and 1.6 sq ft of basement fan room area. For the last three areas mentioned, actual space used often exceeded that indicated on plans.

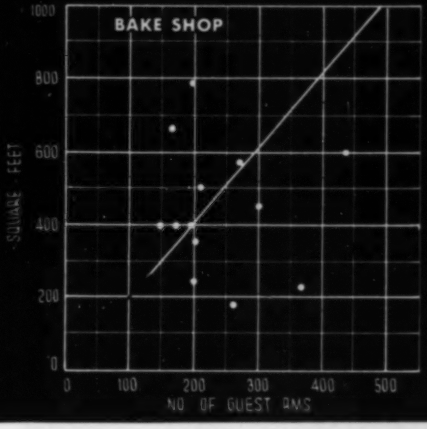


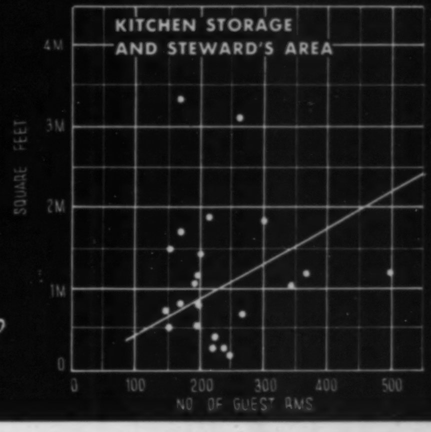

PRIVATE DINING ROOMS
(total area)

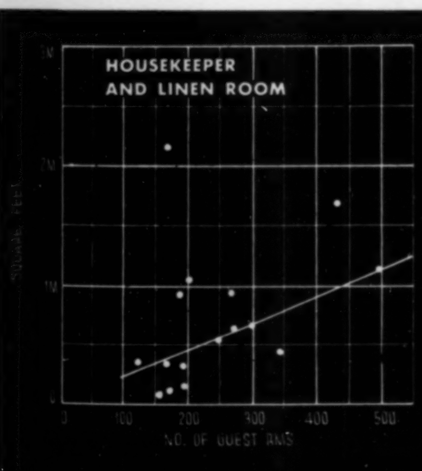

NUMBER OF PRIVATE DINING ROOMS

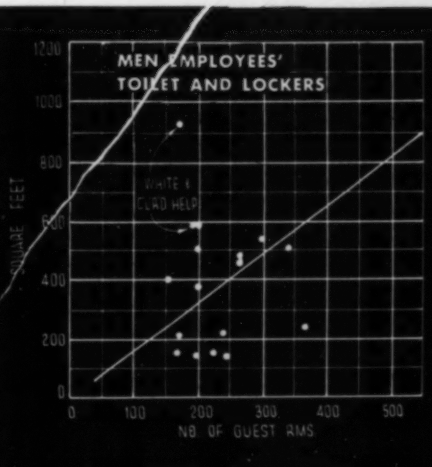

BAR ROOM

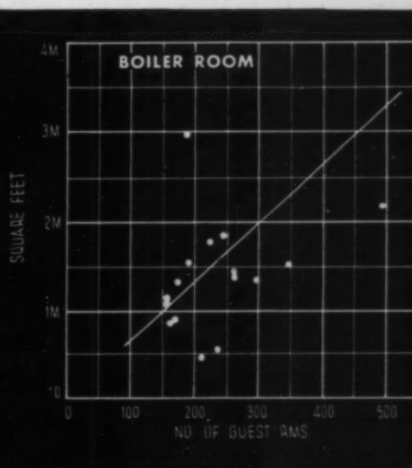

AUXILIARY KITCHEN FOR COFFEE SHOP

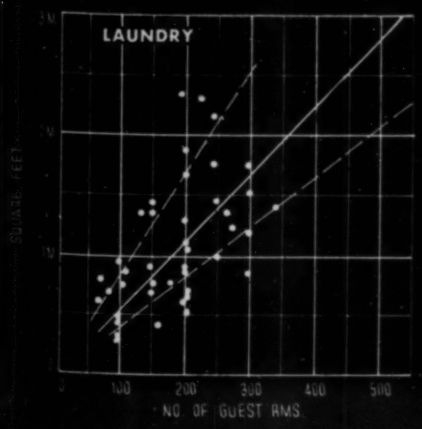

BAKE SHOP

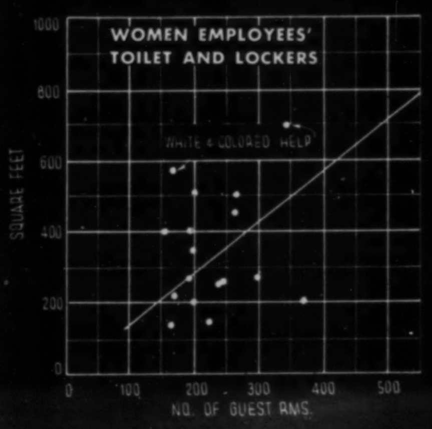

KITCHEN STORAGE AND STEWARD'S AREA

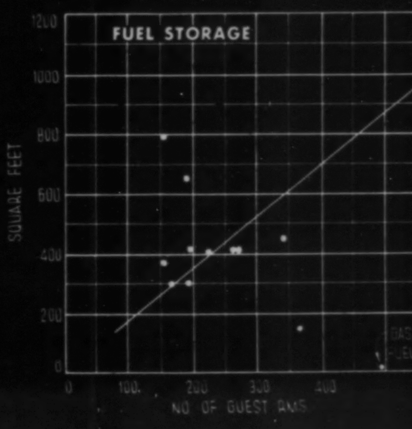

HOUSEKEEPER AND LINEN ROOM


MEN EMPLOYEES' TOILET AND LOCKERS


BOILER ROOM


LAUNDRY


WOMEN EMPLOYEES' TOILET AND LOCKERS


FUEL STORAGE

ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

Photos: above, *The Seattle Times*; opposite page, the author

By Harlan H. Edwards, Consulting Engineer, Seattle, Washington

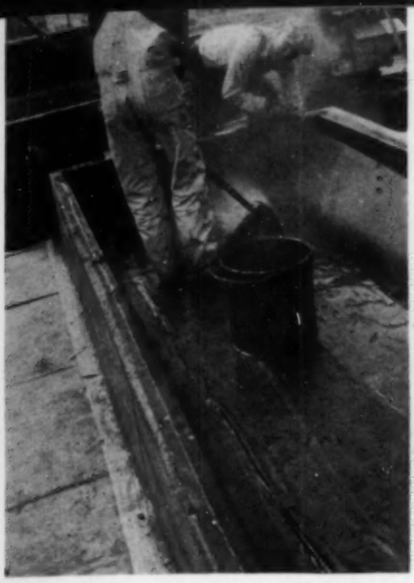
A ROOF DECK THE WEATHER WON'T BOTHER

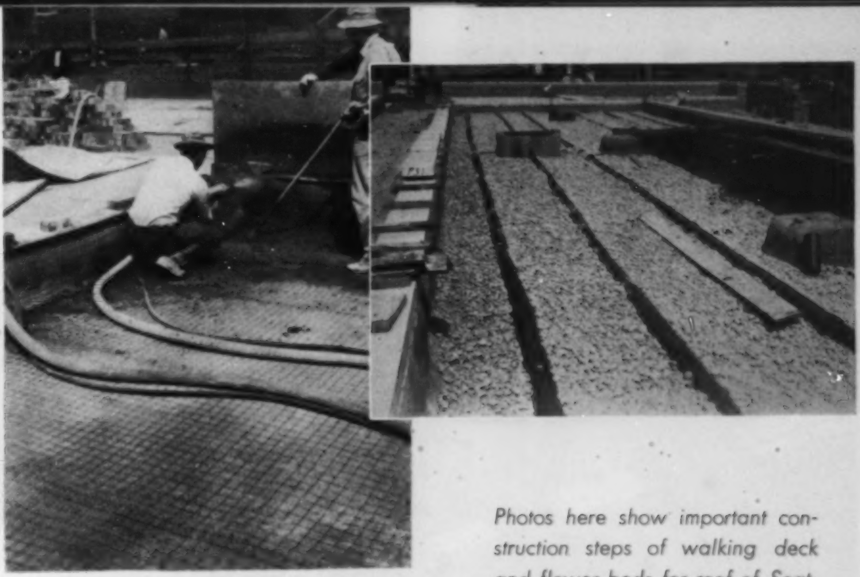
Most roofs are readily accessible if repairs are required. Not so with bituminous roofs laid over concrete slabs and covered with rigid walking decks or roof gardens. Under these surfaces, which may be either concrete, clay tile or other rigid permanent materials, the waterproofing membrane is not only inaccessible but is subject to rupture and ruin if the original installation is not correctly done.

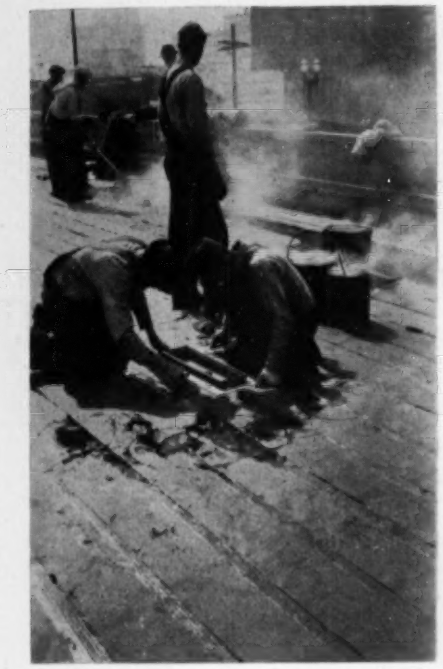
The effect of large temperature changes in expanding and contracting the overlying slab in comparison with the structural slab below is not completely considered in many cases. Costly experience has demonstrated that materials in the surface slabs often bond themselves into the flood-coated membrane below, which in turn has been bonded to the structural slab on which it lies. In consequence, the moving top slab either carries the membrane with it in places, or drags on it — in either case rupturing it. Rainwater penetrates the joints as they open in cooler, rainy times, and soon a leak shows up in a room below, sometimes far distant from the original point of water penetration at the top surface.

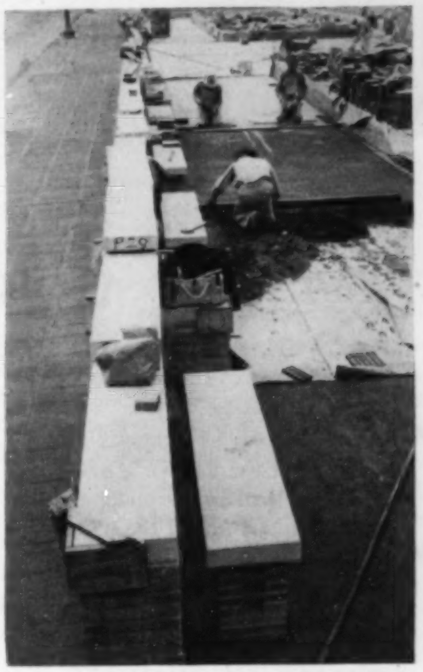
To locate the point of rupture is impossible. Occasionally it is possible to force a cold liquid bitumen onto the membrane below, but the repair is only temporary. Continued movement and the low-temperature hardening of the asphalt or tar opens the cracks, and greater leaks appear. The only remedy is to remove all and start over again, better.

To prevent such trouble in the new stack addition to the Seattle Public Library, a roof deck developed according to the following plan was used. In such a roof, it is necessary to (1) isolate the membrane from the slabs both below and above and (2) strengthen the membrane so that movements of either the top or bottom slab or of the membrane will cause only harmless slippage on surfaces prepared to receive it. First, no bond may exist between the structural slab and the membrane. To guarantee this, the slab should be smooth-troweled as for a finished floor. Second, the slip joint between slab and membrane should consist of at least two slip surfaces, usually created by the laying of a tough dry sheet (such as heavy kraft paper) on the concrete, superimposed by another heavy kraft paper surface. The second layer generally consists of a 20-lb material having kraft paper on one side and prepared roofing on the other. It is laid with the kraft side down and the membrane is mopped to the roofing side, with









Photos here show important construction steps of walking deck and flower beds for roof of Seattle Public Library addition (finished roof deck on opposite page). Architects were John Paul Jones and Leonard W. S. Bindon. The primary waterproofing membrane is carried flat across the entire slab. Then planting bed walls are concreted, and a secondary membrane is laid extending from the top of walls down and across the floor, and up opposite wall (top, left). As a protection to this membrane, wire reinforcement is gunited into place (top, center). Planting bed is drained into sump through gravel (top, right). Membrane must be flashed and clamped to lower drainage pan of floor drain (bottom, left). Mortar bed and quarry tile are placed last (bottom, right)

care being taken not to get asphalt or tar between the kraft layers. At least 2 courses of reinforcement are needed to strengthen the membrane, lapped at least 6 in. to assure continuity of strength. The upper layers of the membrane should be just like the lower two layers, except in reverse — having the kraft surface up, and a kraft sheet above it, over which the wearing surface of tile or concrete is placed.

Floor drains are necessary, both for the surface drainage and for subsurface drainage of the water that may get by the top slab through shrinkage cracks. To these double-drainage-type floor drains, the membrane must be carried and clamped tightly in place. To avoid trouble from ponding and winter freezing of water that may be trapped on an uneven slab below, it is recommended that the structural slab as well as the surface slab be laid to slope to the drain.

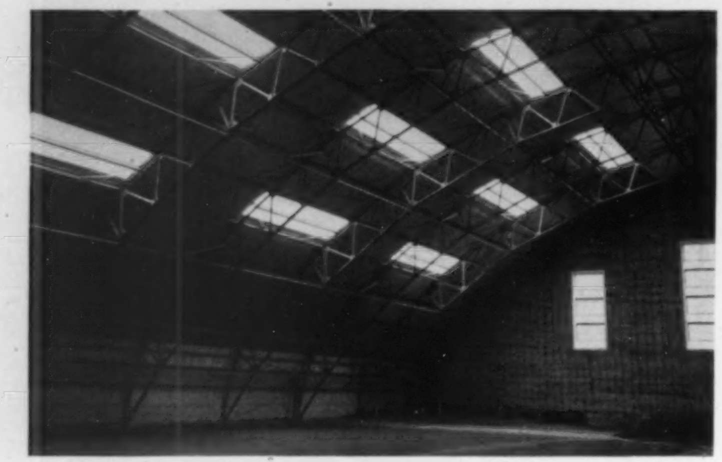
Sealing the base is not complete until a pan is formed by flashing the membrane against the vertical surfaces adjoining. Low sections of dividing walls such as at door openings should have the membrane carried unbroken over them, but where a tile or concrete base is used, the membrane can be carried up behind it and returned, and sealed in reglets cast into the walls. For this sealing purpose, a bituminous mastic should be used.

To avoid tearing or stripping and pulling away of the membrane from the vertical surface, a cold bituminous primer is first applied to the wall. To this the various plies are then bonded using a cold bituminous adhesive. Cold adhesive is used instead of hot mopping in order to create the most flexible bond possible — one which also will permit a slight movement of the membrane without tearing it from its base surface.

Some architects and applicators may prefer a cold cemented job in its entirety, in which case the membrane is laid using the standard cold-application roof specification. One advantage of this method, seldom considered, is that, using the proper materials, the membrane may be laid in relatively wet weather by (1) keeping all operations closely coupled, by (2) using a wet-surface plastic for the flashing bond to a previously primed surface and (3) by rolling the plies into close contact and simultaneously forcing out any water.

If carefully done, the foregoing should result in a permanently watertight job. If any substantial variation occurs, especially in allowing any bitumen to come between the membrane and the slab, one may expect trouble.

Photos courtesy Rohm & Haas Company



Left: skylights of white, translucent plastic, corrugated to match aluminum sheathing, admit daylight to University of Delaware field house. Above: close-up of plastic and center support

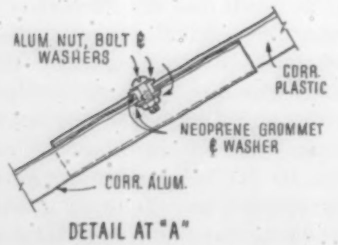
PLASTICS DAYLIGHT A FIELD HOUSE

LARGE enough to hold baseball and football practice, as well as indoor track events, the new field house of the University of Delaware gets its daylight through 24 skylights of shatter-resistant plastic. The 172-ft-long field house is a war surplus airplane hangar which has been sheathed with corrugated aluminum and glazed with panels of translucent acrylic plastic, corrugated to match the aluminum. The skylights conform to the curvature of the roof, and when viewed from the outside are barely discernible.

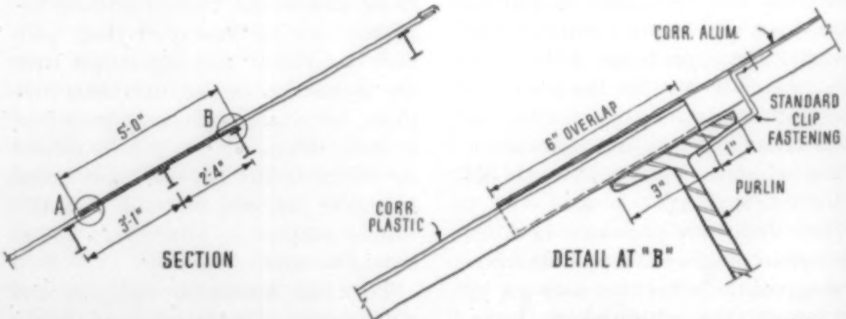
An outstanding advantage of the 18 by 5 ft plastic skylights is ease of installation (see details). The top of each plastic panel runs under the corrugated aluminum, and the bottom extends over the metal. The plastic panels are bolted at the bottom and rest on a structural member at the top, with cross-pieces across the center to aid in supporting snow loads. Standard "Z" clips attached to the cross-pieces tie the plastic panels together at the center. This operation is shown in the right-hand photo. Aluminum border strips, bolted to the plastic at each edge, seal the sides. Synthetic rubber washers and grommets were used in the fastenings to take care of expansion of the plastic sheets.

Cost of erecting the skylights, including material and labor, was $2 per sq ft. The plastic skylight weighs 70 lb, as compared with 437 lb for glass. Other advantages include light diffusion, helping to minimize glare; freedom from deterioration; and strength to withstand snow loads. The size of the individual plastic sheets is 36 by 60 by 0.125 in.

Architect was E. William Martin, Wilmington, Del.

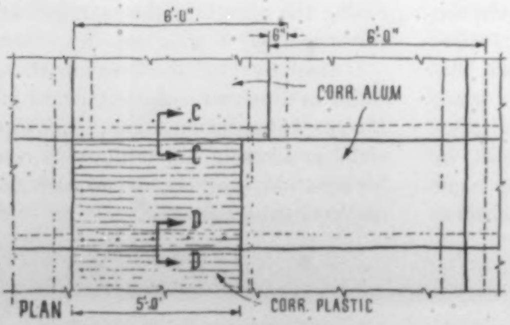

ALUM. NUT, BOLT & WASHERS
CORR. PLASTIC
NEOPRENE GROMMET & WASHER
CORR. ALUM.

DETAIL AT "A"

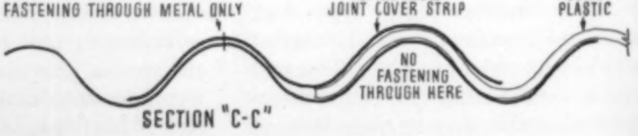

5'-0"
B
A
2'-4"
3'-1"
CORR. ALUM.
STANDARD CLIP FASTENING
6" OVERLAP
1"
3"
PURLIN
CORR. PLASTIC

SECTION

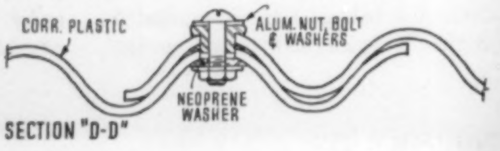
DETAIL AT "B"


6'-0"
6"
6'-0"
CORR. ALUM
C
C
D
D
5'-0"
CORR. PLASTIC

PLAN


FASTENING THROUGH METAL ONLY
CORR. ALUM. JOINT COVER STRIP
CORR. PLASTIC
NO FASTENING THROUGH HERE

SECTION "C-C"


CORR. PLASTIC
ALUM. NUT, BOLT & WASHERS
NEOPRENE WASHER

SECTION "D-D"

CONDENSATION CONTROL FOR HOUSES

Vapor Barriers — 1: Floors and Side Walls

THE material presented here is abridged from the Housing and Home Finance Agency's publication, *Condensation Control*, by the U. S. Dept. of Agriculture in collaboration with the HHFA.

Vapor barriers, combined with ventilation and proper insulation help prevent moisture accumulations in dwellings and subsequent damage and rot. They are materials or coatings that check transmission of water vapor. A good vapor barrier, when installed, should have an average vapor transmission rate less than 1.25 grains per sq ft per hr per in. of mercury differential including joints and around openings.

Types

A number of satisfactory materials are available, including asphalt impregnated and coated papers with a glossy or bright finish. Thin, dull-surfaced papers are not as effective. Other good vapor barriers are: duplex papers composed of two sheets of 30-lb kraft paper with a 60-lb per 3000 sq ft asphalt layer between; aluminum foil mounted on a paper support or to the plaster base; and aluminum paint, oil paint or rubber base paint in sufficient coats for a smooth glossy finish. Papers used to support insulating materials which have narrow strips of asphalt as adhesive joints are not usually good vapor barriers. Value should be checked before purchase.

Use of Vapor Barriers

Not all moisture is caused by leaks or infiltration; when surfaces cool below dew point, water condenses in an enclosed space. Condensation control is possible by proper use of vapor barriers, ventilation or both. Ventilation serves to force out vapor laden air. Vapor barriers should form a light, carefully installed envelope near the warm side of the building element in which it is placed, to prevent vapor reaching the cool surfaces. The cold side of a wall should be capable of losing moisture yet resist rain and strong winds. Sheathing or breathing paper, often used between sheathing and siding, should be capable of passing five or more grains of water vapor per sq ft per hr per in. of mercury when tested by a dry method, and be resistant to wetting by free water. Vapor barriers should always be used when outside of walls have low permeability, in northern climates, and where walls contain materials adversely affected by moisture or moisture freezing. Basement walls are often damp from condensation. Little harm is done unless floors and walls are finished with damageable materials.

Concrete Floors Laid on Ground (Fig. 1)

1. Vapor barrier of durable paper or heavy roll roofing between gravel fill and concrete slab checks water seepage.

2. Thermal insulation (waterproofed) 1½ ft wide around perimeter and over edge of floor slab checks condensation on floors cooled by conduction to walls in winter, by breaking continuity of the concrete. Provide recess in gravel fill and around wall for the insulation.

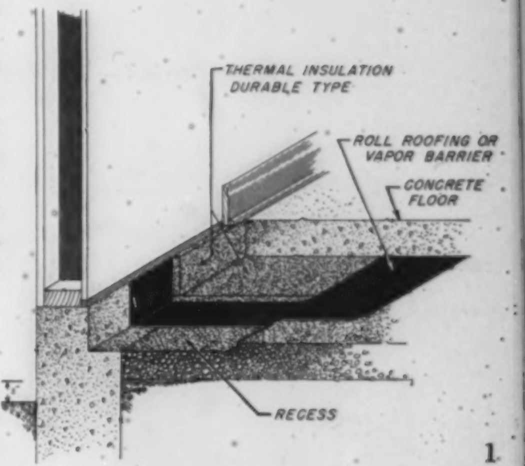
3. Vermiculite in a low density concrete aggregate or thermal insulation below floor prevents condensation caused by heat conduction to soil cooler than air in summer.

Floors Over Unheated Crawl Spaces (Figs. 2, 3)

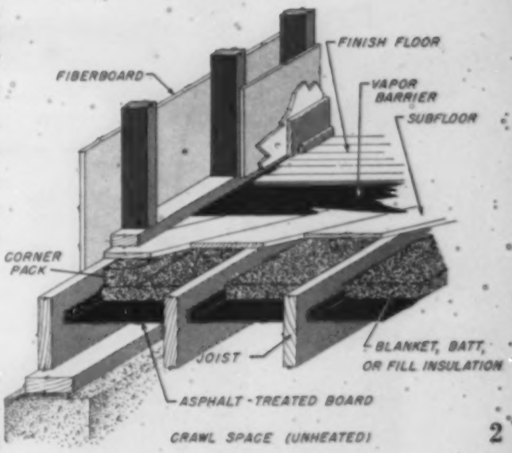
1. Ventilate crawl space with min of 4 vents, placed high near corners of building for free air movement. Net ventilation should equal 2 sq ft per 100 lineal ft of building perimeter plus ⅓ of 1 per cent of crawl space ground area. Total ventilation area = specified net area x factor "A":

Vent Covering *Screen all openings for vermin control.*	"A"
¼-in. mesh hardware cloth	1
Screening, 8 mesh/in.	1¼
Insect screen, 16 mesh/in.	2
Louvers & ¼-in. mesh hardware cloth	2
Louvers & screening, 8 mesh/in.	2¼
Louvers & insect screen, 16 mesh/in.	3

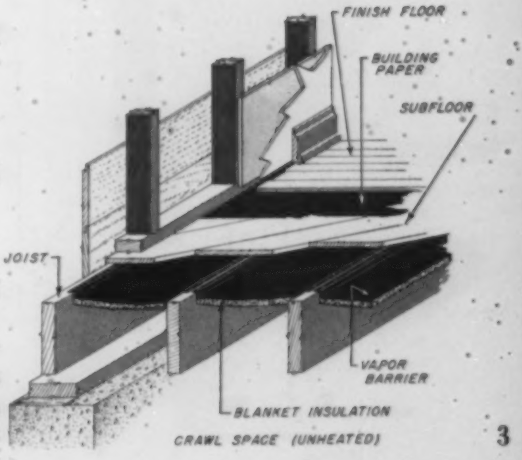
2. Ground Cover of roll roofing (55 lb per 108 sq ft or heavier) restricts evaporation and reduces need of ventilation to 10 per cent amount indicated


THERMAL INSULATION DURABLE TYPE
ROLL ROOFING OR VAPOR BARRIER
CONCRETE FLOOR
RECESS

1



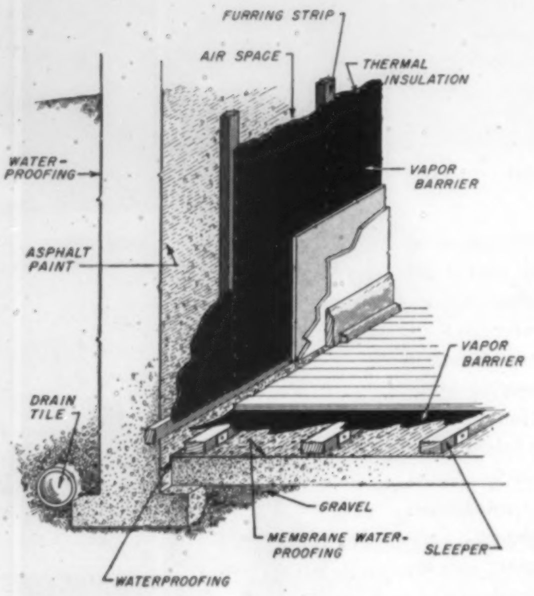
2



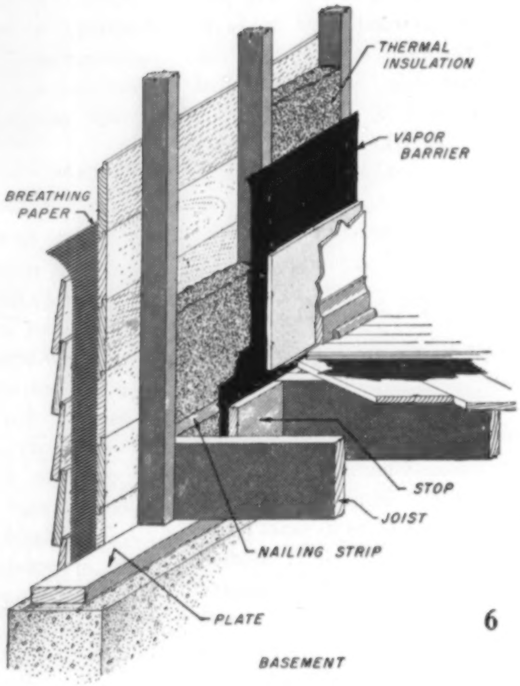
3

CONDENSATION CONTROL FOR HOUSES

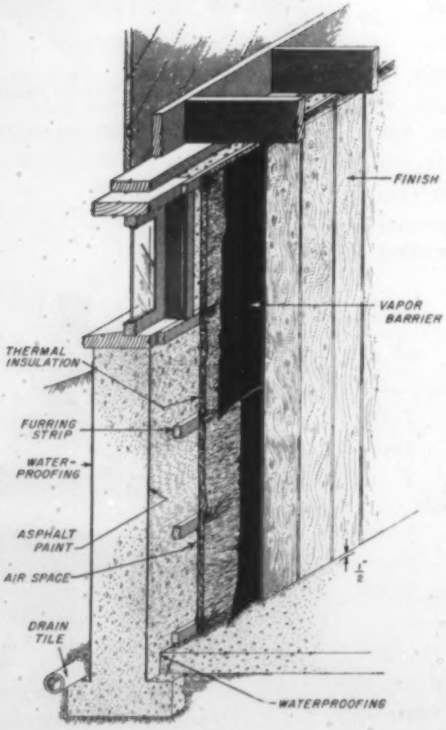
Vapor Barriers — 2: Floors and Side Walls


FURRING STRIP
AIR SPACE
THERMAL INSULATION
WATER-PROOFING
VAPOR BARRIER
ASPHALT PAINT
VAPOR BARRIER
DRAIN TILE
GRAVEL
MEMBRANE WATER-PROOFING
SLEEPER
WATERPROOFING

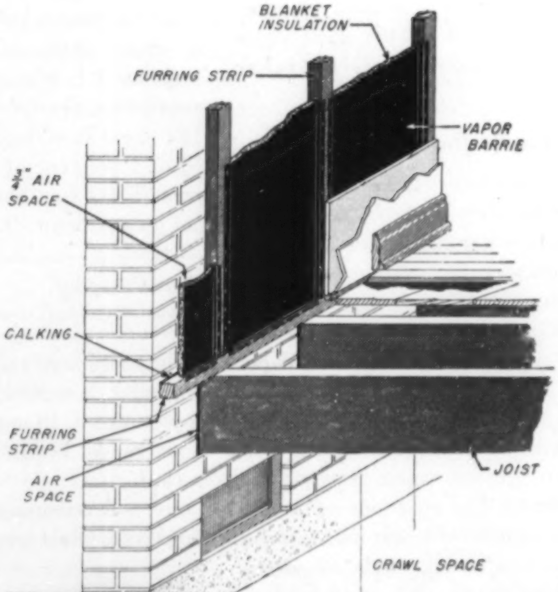
4


THERMAL INSULATION
VAPOR BARRIER
BREATHING PAPER
STOP
JOIST
NAILING STRIP
PLATE
BASEMENT

6


FINISH
VAPOR BARRIER
THERMAL INSULATION
FURRING STRIP
WATER-PROOFING
ASPHALT PAINT
AIR SPACE
$\frac{1}{2}"$
DRAIN TILE
WATERPROOFING

5


BLANKET INSULATION
FURRING STRIP
VAPOR BARRIE
$\frac{3}{4}"$ AIR SPACE
CALKING
FURRING STRIP
AIR SPACE
JOIST
CRAWL SPACE

7

CONDENSATION CONTROL FOR HOUSES

Vapor Barriers — 3: Floors and Side Walls

above. Lap edges at least 2 in. Four in. of gravel (⅛ in. diam or larger) may be used but requires more ventilation.

3. *Drainage*, preferably underground, is necessary on sloping sites. Soil surface below building should be above grade if there is a chance water might get inside foundation wall on level sites.

4. *Vapor barrier* is not required in floor if lower (cold) side is permeable. It is recommended, however, between finish and sub floors to prevent possible buckling from dampness in crawl space.

5. *Insulate* floors and pipes so vents can be left open all year, if necessary for condensation control. Some blanket insulations are made with good quality vapor barriers; when used, place building paper (or vapor barriers if desired) between finish and sub floors. Low surface temperature of reflective insulation necessitates use of vapor barrier. Allow min of ¾-in. air space between such insulation and adjacent surfaces. It is not practical to seal joints of asphalt-treated board supports for insulation, therefore use of a vapor barrier is indicated. Where corner packs are used along outside joists, crawl space must be well vented and ground covers used in wet locations.

Basement Floors (Fig. 4)

1. *Vapor barrier* below finish floor prevents entry of water into space between concrete and finish floor.

2. *Membrane waterproofing* is recommended over concrete sub floors.

3. *Gravel* should be placed below concrete for drainage.

Basement Walls (Fig. 5)

1. *Vapor barrier* placed behind surface, parallel to furring strips and lapped only over solid supports, prevents accumulation of free water behind finish surface.

2. *Insulation* is not essential, but will keep finish at a higher temperature, lower moisture content, and keep basement warm in winter. Allow air space between wall and insulation.

3. *Drain tiles* are recommended near footings in wet soils as well as waterproofing coating on outside of wall.

4. *Asphalt paint* is recommended on inside of masonry wall.

5. *Furring Strips* should be of durable wood or treated with preservative. Strips at top, bottom, and around openings should be continuous to form a good seal. Both wall finish and furring strips should be kept ½-in. above concrete floor.

Floors Over Basements (Fig. 6)

1. *Vapor barriers* should be placed over insulation above foundation wall.

2. *Building paper* should be placed between finish and sub floors.

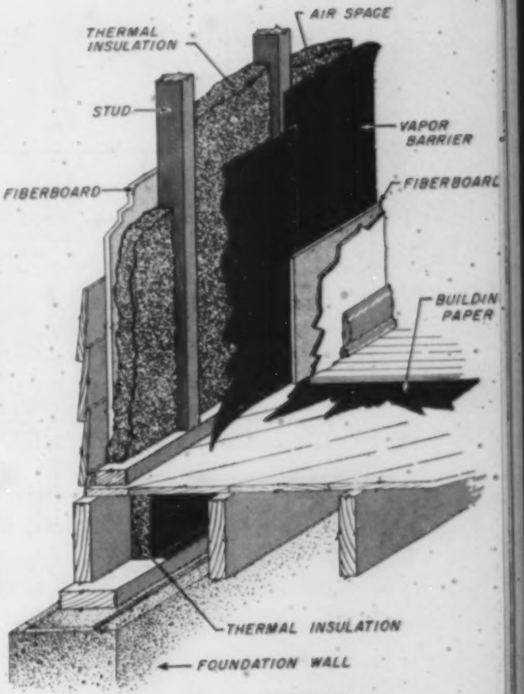
Side Walls (Figs. 7, 8, 9)

1. *Vapor barriers* should be placed over inside (warm) face of studs and run vertically through full story height, lapping only over studs. Fit closely around all openings and partitions.

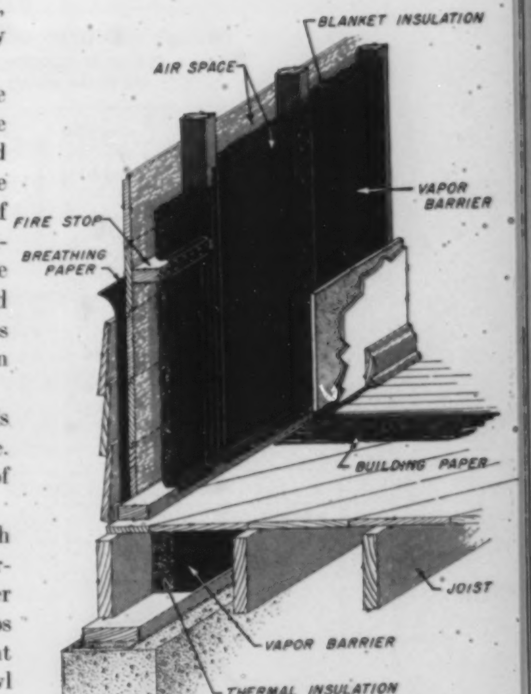
2. *Insulation* is best placed on the warm side of wall, as water will be dispersed more readily than if placed against sheathing. Air space should be left on one or both sides of insulation if possible. If blanket insulation with vapor barrier is used, thoroughly close openings at top and bottom of stud spaces or other horizontal obstructions such as fire stops. Reflective insulation requires a separate vapor barrier.

3. *Ventilation* in cold cavities of walls is effective if opened to the outside. Use 1-in. of opening per running ft of wall, at both top and bottom.

4. *Brick Walls* over crawl spaces, with vapor barriers, require a horizontal furring strip fixed tightly to the brick over joists or above sub floor. Fill any gaps with caulking compound to prevent migration of water vapor from crawl space to attic. Allow air space between insulation and brick.



BASEMENT

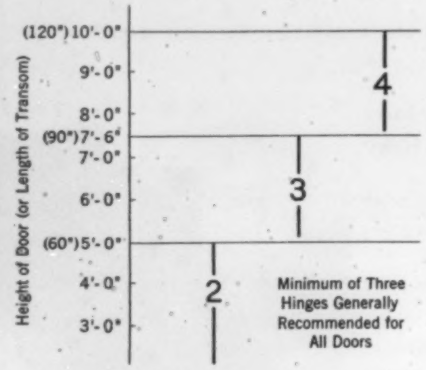


BASEMENT

HARDWARE—7: Hinges

By Seymour Howard, Architect, with the cooperation of American Society of Architectural Hardware Consultants

(Continued on page 143)

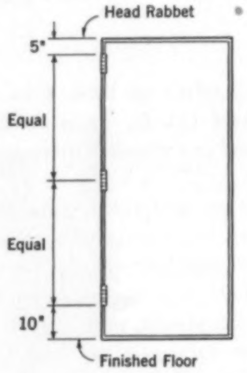


NUMBER OF HINGES PER DOOR
VARIES WITH HEIGHT OF DOOR

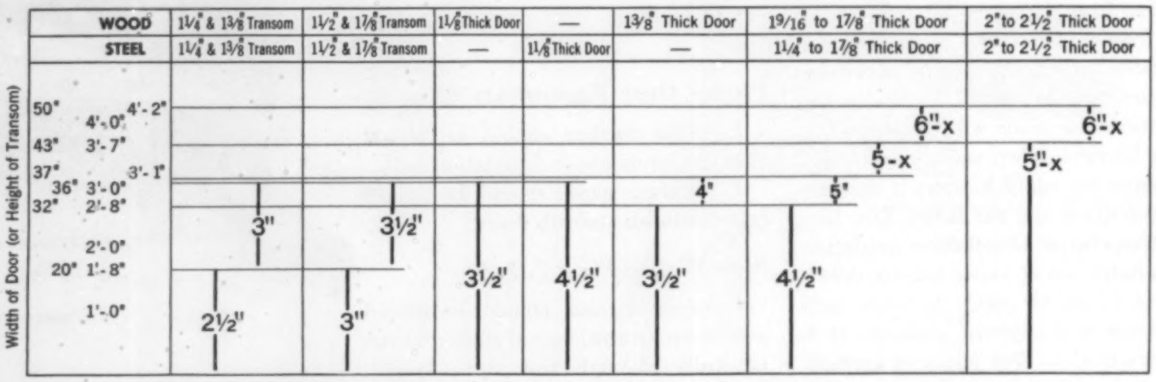
HOW TO SPECIFY HINGES

Number (in Pairs) – Either Ball or Oilite Bearings (if Required) – Type of Tips – Type of Screws – Type of Hinge – Metal – Height – Width (Required Only for Full Mortise Hinges) – Weight (Regular or Heavy) – Finish

TEMPLATE HINGES are Made to Standard, Templates or Patterns (Usually in Accordance with Government Standards) to Insure Exact Matching of Hinge and its Screw Holes with Metal Doors and Metal Jambs Fabricated by Other Manufacturers


Head Rabbet
5"
Equal
Equal
10"
Finished Floor

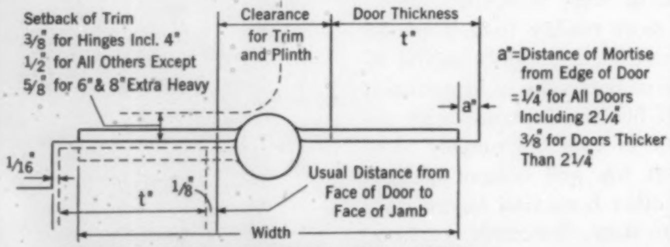
LOCATION OF HINGES



HEIGHT (LENGTH) OF EACH HINGE - Varies with Width, Thickness and Material - (Note: - x Means Extra Heavy)

FOR HIGH FREQUENCY DOORS, USE EXTRA-HEAVY HINGES

Note: Doors of Wrought Bronze, Since They Weigh About 50% More Than Steel, Always Require Extra-Heavy Hinges


Setback of Trim
⅜" for Hinges Incl. 4"
½" for All Others Except
⅝" for 6" & 8" Extra Heavy
Clearance for Trim and Plinth
Door Thickness
t"
a"=Distance of Mortise from Edge of Door
=¼" for All Doors Including 2¼"
⅜" for Doors Thicker Than 2¼"
a"
1/16"
t"
1/8"
Usual Distance from Face of Door to Face of Jamb
Width

WIDTH OF FULL MORTISE BUTT HINGE

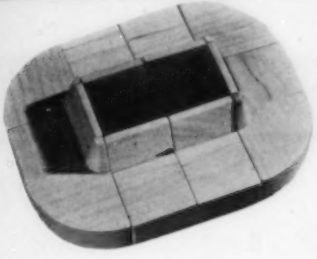
$$\text{Width} = 2t'' - 2a'' + \text{Clearance} + 1/8''$$
$$= \text{Usually} = 2t'' + \text{Clearance} - 3/8''$$
$$\text{Conversely: Clearance} = \text{Hinge Width} - 2t'' + 3/8''$$

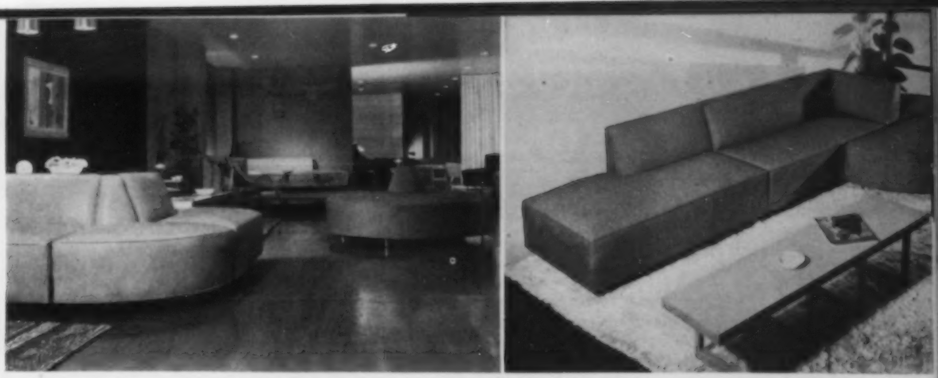
CLEARANCES WITH OTHER TYPES OF HINGES

Length of Hinge	Half Surface	Full Surface (Kalamein & Angle Iron Doors)	Full Surface (Tubular Steel Doors)	Half Mortise
3"	1"			
3½"	1¼"			
4"	1¼"			
4½"	1⅜"	1¾"		1¾"
4½" Extra Heavy	1⅞"	1⅞"	⅞"	1⅞"
5"	1⅞"	1⅞"		1⅞"
5" Extra Heavy	1⅞"	1⅞"	⅞"	1⅞"
6" Extra Heavy	2⅛"	2⅛"	⅞"	2⅛"

FREQUENCY OF OPERATION OF DOORS

HIGH FREQUENCY	DAILY	ANNUALLY
Large Department Store Entrance	5,000	1,500,000
Large Office Building Entrance	4,000	1,200,000
Theater Entrance	1,000	450,000
Schoolhouse Entrance	1,250	225,000
Schoolhouse Toilet Door	1,250	225,000
Store or Bank Entrance	500	150,000
Office Building Toilet Door	400	118,000
LOW FREQUENCY		
Schoolhouse Corridor Door	80	15,000
Office Building Corridor Door	75	22,000
Store Toilet Door	60	18,000
Dwelling House Entrance	40	15,000
Dwelling House Toilet Door	25	9,000
Dwelling House Corridor Door	10	3,600
Dwelling House Closet Door	6	2,200





A new series of modular seating units is shown above in a few of many possible combinations. Backed and unbacked ottomans, corner units and wedges group to form sofas, benches, etc., for large rooms. Scale models (above left) are used to plan arrangement of seats

PRODUCTS for Better Building

Modular Seating Units

The *Nuclear Series* of 20 basic seating units has been designed by Harvey Probber to create custom-tailored architectural effects. Units are varying sized components of squares and circles; curved sections are made concave or convex. Uniform 27 in. height and 30 in. depth allows each piece to fit with others, to be used singly or combined permanently in large seating surfaces.

Frames are made of selected hardwood; fillings are foam rubber, mounted on coil springs. Legs are 4 in. plated brass rods, recessed several inches from the front. An adjusting device allows legs to be raised or lowered to make up for any unevenness in the floor. They may also be fitted with rubber set glides or ball-bearing casters. Various tweedy-type materials are used for upholstering: denims, herringbone tweeds, covert cloth, linen and leather, etc.

Though especially designed for large public areas, the units are adaptable for sofa-bed and couch groupings in residences. Harvey Probber, Inc., 136 Fifth Ave., New York, N. Y.

Plastic Laminates

Parkwood Decorative, a permanently finished laminated plastic material is now on the market for such uses as table tops, counters, furniture and other interior surfaces. Finishes include wood veneers, *Pebble-Tex* and *Star Dust* color patterns. The latter are three dimensional patterns, offered in a choice of several colors. Special veneers, colors and inlaid designs are also available.

Two other plastic laminates are available from the same manufacturer: *Parkwood Hi-Den*, said to be a tough, dense, moisture-resistant, impregnated laminate for machinery parts; and *Parkwood Honeycomb*, an impregnated paper core for use between structural sheets to form lightweight panels. Parkwood Corp., Dept. 10, 34 Water St., Wakefield, Mass.

Odorless Paint

The new *Keystone One Coat Flat Oil Paint* is reported to be free of any obnoxious paint fumes. This quality is made possible by the use of an odorless solvent developed by the petroleum industry, and a binder rendered odorless by Keystone through a secret process. These replace the customary turpentine and linseed oil. No deodorant or perfume to mask fumes is said to be used.

Increased efficiency in application is claimed for the paint, with a substantial saving in revenue to concerns which derive an income from the premises, as rooms may be occupied following completion. Keystone Paint and Varnish Co., 71 Otsego St., Brooklyn, N. Y.

Gas Gravity Furnace

The *Type 111* updraft gas gravity furnace is announced for the low cost housing market. The unit is compactly sized: 25½ in. wide, 51 in. high, and 26½ in. deep. Features include a heavy, welded steel heat exchanger with a square radiator connected to eliminate expansion strain and noise; free-floating corner baffles to create a whirling action and provide greater heat extraction; and circular cast-iron burner with manifold and controls external and adjacent to the unit. A solid base with leveling screws eliminates the need of a concrete setting or grouting. The unit is shipped pre-assembled in two packages — one with burner and trim and the other with heat exchanger and casing. L. J. Mueller Furnace Co., 2005 W. Oklahoma Ave., Milwaukee 15, Wis.

New Planning Service

A Construction Service Department has been created by Hart & Hegeman to provide technical information on the use, specification, performance or availability of wiring devices. The service is available at no obligation to architects, electrical engineers and contractors. A field service staff of experts on wiring devices has been located throughout the U. S. for help with problems involving H & H products. Hart & Hegeman Div., The Arrow-Hart & Hegeman Electric Co., Hartford 6, Conn.

Cockpit Elevator

Elevators in the new Jordan Marsh store in Boston, Mass., have private cockpits for the operators to provide safer, more efficient service. Floors of these compartments are 1 ft. above the passenger level, giving the operator an unobstructed view of the elevator entrance. Space behind the operator is closed off, allowing passengers to move directly forward when getting off, instead of working their way from behind the operator. Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa.

Humidity Control

The *Niagara Controlled Humidity Method* is a system of air conditioning employing *Hygrol*, a hygroscopic chemical, to control relative humidity. Reportedly, the unit can provide dry air at

(*Continued on page 186*)

MANUFACTURERS' LITERATURE

Aluminum Windows

Specifications — Aluminum Windows. Presents a short form and a master specification for general requirements of aluminum windows. The latter includes materials, construction, protective coating, finish, air infiltration, fixed windows, screens, drawings, erection, caulking, glazing and cleaning after erection. A second section gives specific requirements for double-hung, casement, and projected type windows for various structures. Features of aluminum windows are noted. 16 pp., illus. Aluminum Window Mfgs. Assoc., 209 Cedar Ave., Takoma Park, Washington 12, D. C.*

Rolling Doors

Cornell Rolling Doors (Catalog No. Z-27). Describes steel fire doors, service doors, shutters, grilles, enclosures for moving stairways, and wood doors. Specifications, details and tables of dimensions and clearances are included for all the above. Other types of Cornell doors are noted. 12 pp., illus. Cornell Iron Works, Inc., 36th Ave. & 13th St., Long Island City 6, N. Y.*

Copper Roofing

Master Specifications for Copper Roofing and Sheet Metal Work in Building Construction (Specification 100). Covers the following classifications: flat seam, standing seam and batten seam roofing; flashings; gutters and leaders; leader heads and straps; splash pans; cornices and belt courses; building expansion joints; coping covers; louvers; scuttles and eave snow flashings. 23 pp. Revere Copper and Brass Inc., 230 Park Ave., New York 17, N. Y.*

Heating Equipment

Coleman Advanced Automatic Heating Equipment for Low Cost Homes (Form A645B). Discusses line of oil or gas furnaces, floor furnaces, wall heaters and water heaters. Data includes specifications, construction details, operation diagrams, controls, crowns, adapters and notes on location. 20 pp., illus. The Coleman Co., Inc., Wichita 1, Kansas.

Mahogany

For American Industry — Philippine Mahogany. Folder pictures uses of mahogany in homes, commercial installations and furniture. Color photographs show 24 finishes possible with the wood. An enclosed insert gives formulas for producing these finishes. 8 pp., illus. The Philippine Mahogany Assn., 111 W. 7th St., Los Angeles 14, Calif.

Cooling Towers

Binks Type E Series Induced Draft Cooling Towers (Bulletin 42). Presents design features and operation of a compact induced draft cooling tower for use with packaged, water-cooled air conditioning and refrigeration condensing units. Specifications, size and weight tables, performance data are given, with a typical installation diagram. A cooling tower and pump selection table is included. 4 pp., illus. Binks Manufacturing Co., 3114-40 Carroll Ave., Chicago 12, Ill.

Aluminum Roofing and Siding

Alcoa Aluminum Industrial Roofing and Siding. Booklet discusses qualities of the material and gives dimension, coverage and load tables. Details show a variety of fasteners and flashings. Sketches accompany recommended application procedure and suggested specifications. 17 pp., illus. Aluminum Co. of America, Pittsburgh 19, Pa.*

Tramrail Systems

Typical Tramrail Specification File For Architects and Engineers. A set of sample specifications, to be modified to meet particular conditions, on tramrail design and operation. It covers tracks, runways, track fittings, shielded electrification, switches, bridge cranes, push trolleys, motor driven trolleys, push cranes, transfer bridges and superstructure. 10 pp. The Forker Corp., 2044 Random Road, Cleveland 6, Ohio.

Dumbwaiters

Otis Low-Rise Electric Dumbwaiters. Gives description, drawings and photographs of the dumbwaiter and its equipment. Uses and typical installations are pictured for counter level or under-counter arrangements. Layout data, installation notes, specifications, details, and width and depth tables are included. 8 pp., illus. Otis Elevator Co., 260 11th Ave., New York 1, N. Y.*

Air Conditioner

Servel All-Year Air Conditioner. Booklet discusses features and functions of the unit, with diagrams showing how it works. Pictures of the parts, and descriptions of the heating and cooling cycles and the control system are given along with drawings, specifications and installation data. Drawings and data for evaporative water coolers are also included. 8 pp., illus. Servel Inc., 119 N. Morton Ave., Evansville 20, Ind.*

Power Cables

Selection of Proper Cable Sizes (Publication No. 19-269). Booklet presents a method of selecting the proper conductor size for heat-resistant types of wire and cable. Step-by-step instruction is given on figuring load current, voltage drop, cables, and cable sizes for both lighting and motor loads. Tables are included for these computations, for voltage and temperature classification of insulating materials, and for wire gages, dimensions and copper weights. 10 pp. General Electric Co., Construction Materials Dept., Bridgeport, Conn.*

Pressure Systems

Hydro-Pneumatic Pressure Systems (Bulletin B-579). Explains how to select equipment for hydro-pneumatic pressure systems. Four main chapters cover general description, pump and tank capacities and pressures, hydro-pneumatic system components, and pressure system auxiliary equipment. Many charts, graphs, tables and diagrammatic drawings amplify the text. 30 pp., illus. Peerless Pump Div., Food Machinery and Chemical Corp., 301 W. Ave. 26, Los Angeles 31, Calif.

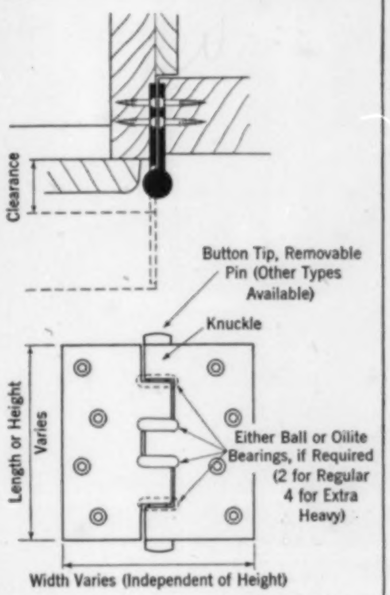
(Continued on page 202)

Other product information in Sweet's File, 1950.

HARDWARE—8: Hinges

By Seymour Howard, Architect, with the cooperation of American Society of Architectural Hardware Consultants

(Continued from page 138; continued on page 145)

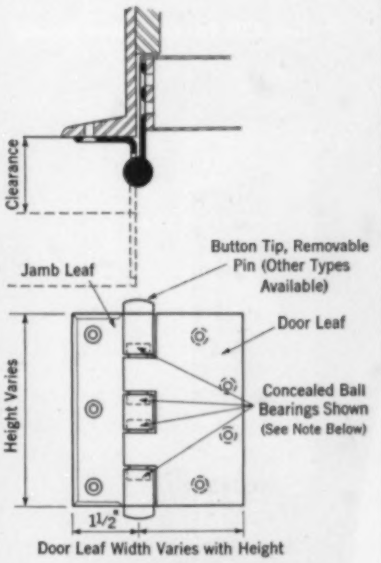

Clearance
Button Tip, Removable Pin (Other Types Available)
Knuckle
Length or Height Varies
Either Ball or Oilite Bearings, if Required (2 for Regular 4 for Extra Heavy)
Width Varies (Independent of Height)

Non-Template Shown, also Made Template

FULL MORTISE BUTT HINGE

Non-Template: for Wood Doors and Wood Jambs (All Wood Screws)

Template: for Wood Doors and Pressed Metal Jambs (Order 1/2 Machine Screws); or for Hollow Metal Doors and Pressed Metal Jambs (Order All Machine Screws)

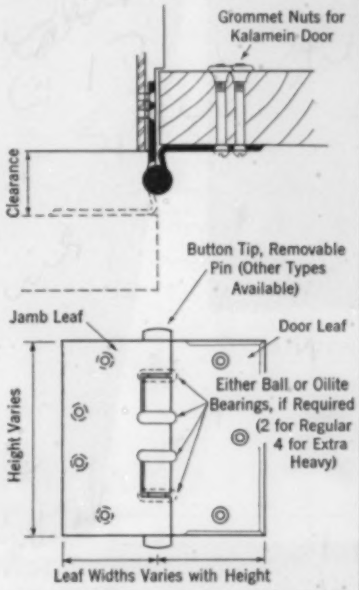

Clearance
Button Tip, Removable Pin (Other Types Available)
Jamb Leaf
Door Leaf
Height Varies
Concealed Ball Bearings Shown (See Note Below)
1½"
Door Leaf Width Varies with Height

Template Shown

HALF MORTISE BUTT HINGE

Template: for Hollow Metal Doors and Channel Iron Frames (Order All Machine Screws)

Note: Half Mortise Hinge is also Available with Other Types of Bearings (Plain, Ball or Oilite).
Full Mortise, Half Surface and Full Surface Hinges are also Available with Concealed Ball Bearings

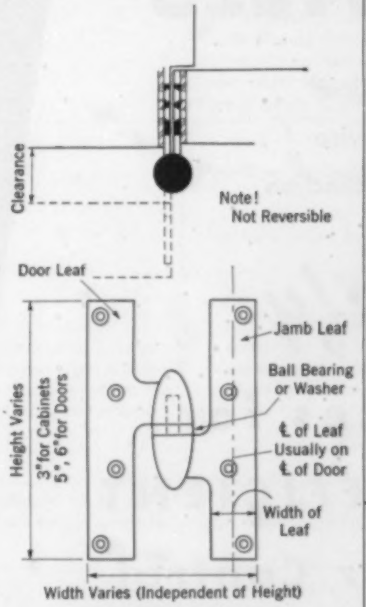

Grommet Nuts for Kalamein Door
Clearance
Button Tip, Removable Pin (Other Types Available)
Jamb Leaf
Door Leaf
Height Varies
Either Ball or Oilite Bearings, if Required (2 for Regular 4 for Extra Heavy)
Leaf Widths Varies with Height

Template Shown, also Made Non-Template

HALF SURFACE BUTT HINGE

Non-Template: for Wood Doors and Jambs (All Wood Screws); or for Kalamein Doors and Kalamein Jambs (Order 1/2 Machine Screws with Grommet Nuts)

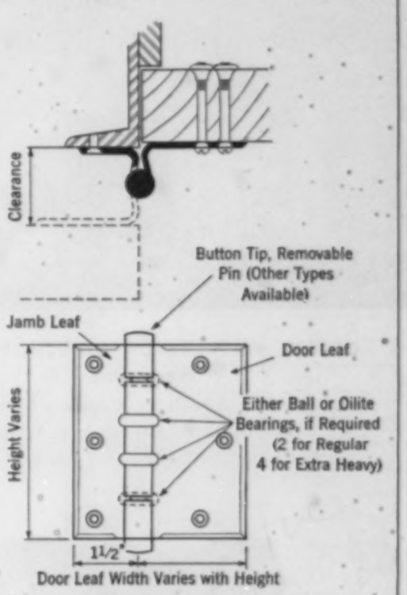
Template: for Kalamein Doors and Pressed Metal Jambs (Order All Machine Screws, 1/2 with Grommet Nuts)


Clearance
Note! Not Reversible
Door Leaf
Jamb Leaf
Ball Bearing or Washer
℄ of Leaf Usually on ℄ of Door
Width of Leaf
Height Varies 3" for Cabinets 5", 6" for Doors
Width Varies (Independent of Height)

Right Hand Hinge Shown

OLIVE KNUCKLE (PAUMELLE) HINGE

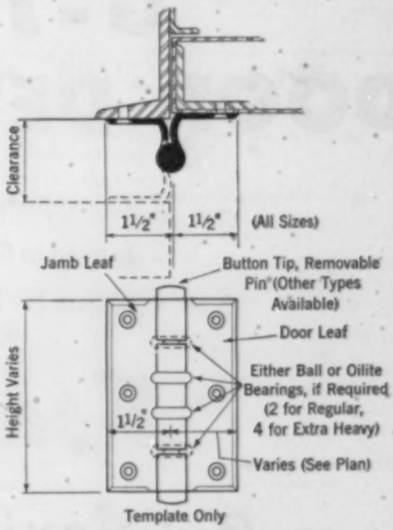
Type of Loose Joint Hinge, Therefore Handed.
Knuckle Alone Visible when Door Closed.
Made Template and Non-Template (See Notes Under Full Mortise Butt Hinge)
Note: for Clearances, See Manufacturers Catalogs


Clearance
Button Tip, Removable Pin (Other Types Available)
Jamb Leaf
Door Leaf
Height Varies
Either Ball or Oilite Bearings, if Required (2 for Regular 4 for Extra Heavy)
1½"
Door Leaf Width Varies with Height

Template Only

FULL SURFACE HINGE FOR KALAMEIN DOOR

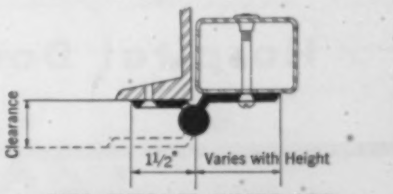
(CHANNEL IRON FRAME)


Clearance
1½"
1½"
(All Sizes)
Jamb Leaf
Button Tip, Removable Pin (Other Types Available)
Door Leaf
Height Varies
Either Ball or Oilite Bearings, if Required (2 for Regular, 4 for Extra Heavy)
1½"
Varies (See Plan)

Template Only

FULL SURFACE HINGE FOR ANGLE IRON DOOR

(CHANNEL IRON FRAME)

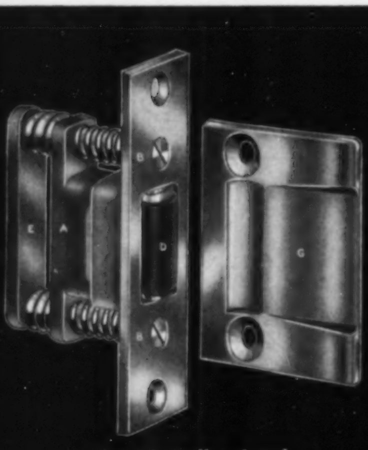

Clearance
1½"
Varies with Height

FULL SURFACE HINGE FOR TUBULAR STEEL DOOR

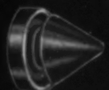
(Elevation as Shown for Hinge for Angle Iron Door)

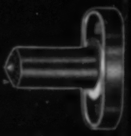
Used in Foremost Hospitals Everywhere

GEORGE WASHINGTON UNIVERSITY HOSPITAL
Washington, D. C.
Architects: Faulkner, Kingsbury & Stenhouse
General Contractors: Chas. H. Tompkins Co.
Hardware Dealers: W. T. Weaver & Sons



G-J 30 Roller Latch





Door Silencers

G-J 64 for Metal Frames **G-J 65 for Wood Frames**

G-J 320 Friction Door Holder

G-J
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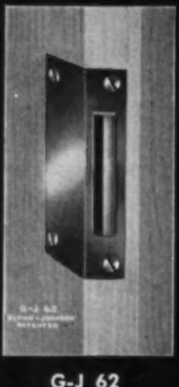
2 Proved in Service
3 Known for Distinction

Specify

G-J Devices for
SILENT . . . EFFICIENT
Hospital Door Control



G-J 62
Door Mute

K. H. 1
Arm Pull

For detailed description and applications of these devices, refer to our general catalog.

MERIT CHARACTER GJ CORPORATION DISTINCTION

GLYNN-JOHNSON CORPORATION

Builders' Hardware Specialties for Over 25 Years

4422 N. Ravenswood Ave., Chicago 40, Illinois

HARDWARE—9: Hinges

By Seymour Howard, Architect, with the cooperation of American Society of Architectural Hardware Consultants

(*Continued from page 143*)

HINGE SIZES AVAILABLE

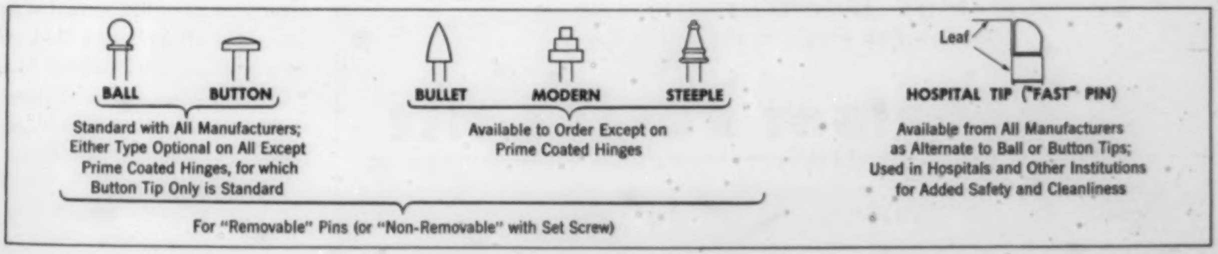
SIZE OF HINGE (LENGTH OR HEIGHT)	THICKNESS OF METAL			DIA. OF KNUCKLE (USUAL)	SIZES LISTED IN GOVERNMENT STANDARDS OR GENERALLY AVAILABLE FROM MANUFACTURERS							OTHER SIZES AND TYPES AVAILABLE FROM MANUFACTURERS	
	NON-TEMPLATE AND TEMPLATE WROUGHT METAL (GOV. STNDS CS 22-40 & CS 9-33)	NON-TEMPLATE CAST METAL (GOV. STND CS 22-40)	TEMPLATE CAST METAL (GOV. STND CS 9-33)		FULL MORTISE, NON-TEMPLATE	FULL MORTISE, TEMPLATE	HALF SURFACE, TEMPLATE	FULL SURFACE, TEMPLATE (KAL. DOORS)	FULL SURFACE, TEMPLATE (ANGLE IRON DOORS)	FULL SURFACE, TEMPLATE (TUBULAR STEEL DOORS)	HALF MORTISE, TEMPLATE	HALF SURFACE, NON-TEMPLATE	OLIVE KNUCKLE TEMPLATE AND NON-TEMPLATE
2"	.083"	Specified			X	X						X	
2½"	.089"	by Weight			X	X						X	
3"	.092"	Only; for	.156"	.515"	X	X	X					X	X
3½"	.123"	Approxi-	.156"	.632"	X	X	X					X	
4	.130"	mations,	.172"	.632"	X	X	X					X	
4" Extra Heavy	.170"	Use Next	.250"			X							
4½"	.134"	Column	.187"	.695"	X	X	X	X	X		X	X	
4½" Extra Heavy	.180"		.250"	.831"	X	X	X	X	X	X	X		
5"	.146"		.203"	.731"	X	X	X	X	X		X	X	X
5" Extra Heavy	.190"		.281"	.831"	X	X	X	X	X	X	X		
6"	.160"			.784"	X	X							X
6" Extra Heavy	.203"		.312"	.906"	X	X	X	X	X	X	X		X
8" Extra Heavy	.203"			.971"	X	X							

Note: Above sizes are based on height (same as length) of hinge. Full mortise butt hinges are usually made of same width as their height (e.g.: 4½ by 4½ in., 6 by 6 in.), but are available in other widths. When clearance for trim (see Hinges, Sheet 7) make these widths unsuitable (e.g.: trim very narrow or omitted, or very wide plinth or trim), specify width desired, to nearest larger ½ in. dimension, and manufacturer will be able to furnish. Half surface, full surface and half mortise hinge widths are not variable.

METALS AND FINISHES USED	NOTES
Recommended For Interior Doors:	Note: All wrought steel hinges may have plain, ball or oilite bearings
Wrought steel, highly polished & heavily plated	Very accurately made; heavy copper plating before finish plating
Wrought steel, polished & plated	Finish plating directly on polished steel
Wrought steel, planished & plated	Finish plating directly on cold rolled steel
Wrought steel, primed for painting	Inner edges of leaves cut back for paint clearance around knuckles
Cast iron (sometimes malleable iron)	Free graphite in iron helps lubricate bearing
Recommended For Exterior and Interior Doors:	
Wrought or cast brass or bronze	Should have either ball or oilite bearings; also stainless steel pin
Wrought or cast white bronze	Ditto
Wrought aluminum	Ditto
Wrought stainless steel	May have either ball or oilite bearings; also stainless steel pin
Wrought monel metal	Ditto

BALL BEARINGS and OILITE BEARINGS are regularly permanently fitted to knuckles to prevent accidental detachment and loss. Ball bearings are of hardened carbon steel; may be of stainless steel. Oilite is a powder metallurgy product: an alloy of 85 per cent copper, 10 per cent tin, 5 per cent graphite (typical composition), of porous or sponge-like structure, containing lubricating oil within its pores. Depending on manufacturer, bearings may be either externally visible or concealed within knuckles (see drawings of hinge types).

PINS are usually of hardened carbon steel; may be of stainless steel. "Removable" pins should be designed to be non-rising. "Non-removable" pins may be held by set screw in barrel to permit removal; or they may be "fast" pins, riveted, driven in, spun or welded at both ends. Fast pins make hanging of door more difficult. Types of tips available:



Standard with All Manufacturers; Either Type Optional on All Except Prime Coated Hinges, for which Button Tip Only is Standard

Available to Order Except on Prime Coated Hinges

Available from All Manufacturers as Alternate to Ball or Button Tips; Used in Hospitals and Other Institutions for Added Safety and Cleanliness

For "Removable" Pins (or "Non-Removable" with Set Screw)

The U. S. Air Force is *TOUGH* on an Enemy in the Air . . .

This beautiful officer's club at Ellington Field, near Houston, Texas, is a "pace setter" for officer's clubs throughout the nation. The swank Congo Bar shown here is one of several luxurious rooms in the club featuring WRIGHT RUBBER TILE.

and *ROUGH* on Officer's Club Flooring!

Selecting the right flooring for an officer's club is a special challenge. The requirements are high — and architects know it. That is why time and again, they specify WRIGHT RUBBER TILE for the "tough" jobs.

They know that an officer's club floor must be beautiful. It must be comfortable and able to withstand damage from spilled drinks, cigarette butts and frequent re-arrangement of heavy furniture. It must be in good, pleasing taste, quiet, and unbelievably durable. WRIGHT RUBBER TILE, the nation's first rubber tile floor covering, meets all these requirements.

Non-porosity gives WRIGHT RUBBER TILE a resistance to damage unequalled by any other floor covering, as well as unparalleled beauty and long life.

No wonder Ellington Field officers chose Wright, the oldest and best known rubber tile in existence.

A floor covering that meets the requirements of an officer's club will be ideal for any room where luxury and resistance to hard wear and damage are paramount. That's why architects everywhere are consistently specifying WRIGHT RUBBER TILE for every job.

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giving full specifications of WRIGHT RUBBER TILE

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WRIGHT RUBBER TILE

FLOORS OF DISTINCTION

- WRIGHTEX—Soft Rubber Tile
- WRIGHTFLOR—Hard Surface Rubber Tile
- WRIGHT-ON-TOP Compression Cove Base

(*Continued from page 24*)

ON THE CALENDAR

Feb. 19-23: Sixth Annual Convention and Exposition, National Assn. of Home Builders, Stevens and Congress Hotels, Chicago, Ill.

Feb. 27-Mar. 3: Committee Week and Spring Meeting, American Society for Testing Materials, Hotel William Penn, Pittsburgh, Pa.

Through Mar. 5: Exhibition of Mies van der Rohe Model, Museum of Modern Art, New York City.

Mar. 28-31: 1950 National Plastics Exposition, Navy Pier, Chicago, Ill.

Apr. 4-8: National Production Exposition, sponsored by Chicago Technical Societies Council, Inc., Stevens Hotel, Chicago, Ill.

Apr. 10-16: VII Congress of Panamerican Architects, Havana, Cuba.

Apr. 19-21: Spring Meeting, American Society of Civil Engineers, Los Angeles, Calif.

COMPETITIONS

Welded Bridges Theme for 1950 Lincoln Competition

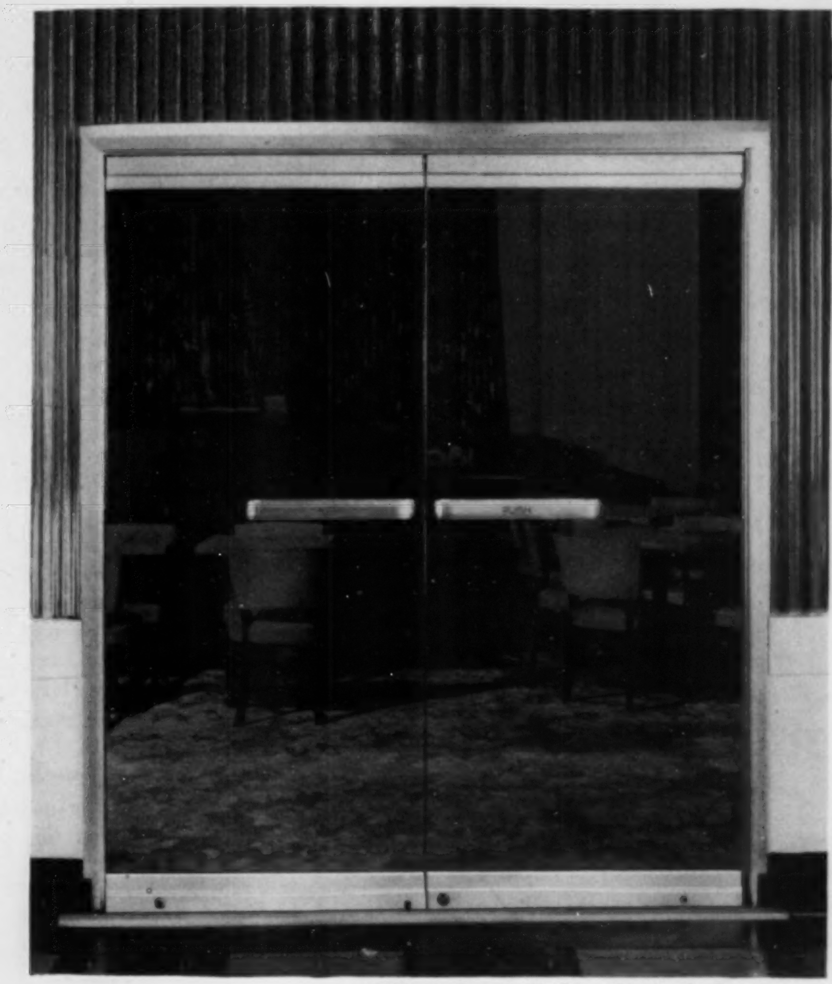
"Welded Bridges of the Future" is the 1950 Award Program of the James F. Lincoln Arc Welding Foundation. Its objective is "to stimulate original and creative thinking on the design of bridges."

The competition, which carries awards totaling $10,750, is open to all persons who consider themselves qualified. Each participant must present an original, all-welded design for a two-lane through highway bridge with a span of 250 ft. All exhibits must have been completely executed between Nov. 1, 1949 and June 30, 1950, when the competition closes.

In rating the merits of exhibits, the Jury of Award will consider five factors: compliance with competition specifications; ingenuity in developing shapes, arrangement of individual members, sections and connections that can readily be assembled and welded in both shop fabrication and field erection, with due regard to methods possible in existing and future fabricating shops; the cost, including maintenance; probable life; the appearance of the bridge.

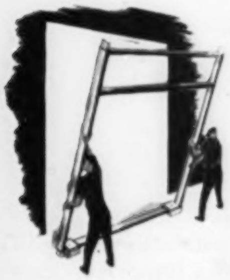
(*Continued on page 148*)

Only *Pittsburgh* can offer "the doorway that has everything!"



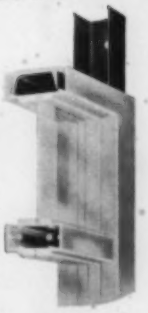
Architect: Francis W. Swen, Pittsburgh, Pa.

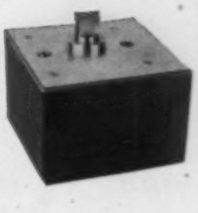
ALL *you* have to do is indicate the style number and size frame you need (there are twelve standard designs to choose from). And when it reaches the job — complete in one "package"— it's only necessary to unpack the frame, bolt it into the building opening and hang the Herculite Doors, for which the frames have been especially engineered. All work can be done with the least possible interference with traffic into and out of the building. Every step in the construction of these frames is marked by precision-fabrication. Expert craftsmen use special checking gauges to assure absolute accuracy of all dimensions. All this means that Pittsburgh Doorways offer not only important advantages, but definite savings as well—in time-consuming calculations, in details of setting and fitting, in assembly labor. But this is just a small part of the story. Get full details by filling in and returning the convenient coupon below.



◀ **REACHES JOB READY FOR WORK.** In *one* "package" there's everything needed for quick installation: moldings for transom glass, supports for sidelights, strikes for locks, sockets for bolts, Pittco Checking Floor Hinge.

HANDSOME, RUGGED FRAME —— ▶ precision-built of special shapes and heavy extruded aluminum, reinforced with structural steel.





◀ **COMPACT, EFFICIENT,** laboratory-tested Pittco Checking Floor Hinge. Especially developed for Pittsburgh Doorways. Has built-in door holder, positive door-speed control, separate checking control. Is sealed in oil for life.

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PITTSBURGH PLATE GLASS COMPANY

skylines...
by Otis
SOUPS
4th floor
EXHIBITION HALL

Toronto, which began as a wooden stockade on a site known to the Indians as the "place of meetings", has grown to be Canada's commercial and financial capital and a great educational and cultural city. The home of Toronto University, it supports two symphony orchestra organizations and stages the annual Canadian National Exhibition which is the industrial show window of Canada. Toronto's skyline, which includes the tallest skyscraper in the British Empire, is served by 3,724 elevator installations — of which 2,174 are by Otis.

STAIRWAY TO THE STARS.

Loge and balcony seats are as popular as those in the orchestra in the new $2,000,000 Skouras Calderone Theatre in Hempstead, Long Island, N. Y. They're just as easy to reach. It doesn't take a bit of effort or exertion to travel from the lobby to the mezzanine on the Escalator.

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You've probably noticed that aisles in well-managed stores are free of cartons and crates. And you always have a full selection of everything. It's done very simply with an Otis Undercounter Dumbwaiter.

SHE WON'T GO IN!

Hotel managers! Don't let lucrative convention business pass you by — because your freight elevator can't handle display material. We'll be glad to help with your modernization plan.

If you're interested in knowing more about Undercounter Dumbwaiters for stores, restaurants, clubs, etc., write for Otis Booklet A-380-S.

Otis

ELEVATOR COMPANY

***Home Office:* 260 11th Ave., New York 1, N. Y.**

(*Continued from page 146*)

Awards will be made as follows: First Award, $5000; Second Award, $2500; Third Award, $1250; 10 Honorable Mentions, $200 each.

The 1950 Program is dedicated to Wilbur M. Wilson, Research Professor of Structural Engineering Emeritus, University of Illinois.

Mr. Wilson is honorary chairman of both the Rules Committee and the Jury of Award, which is to include at least five members of the Rules Committee.

Chairman of the Rules Committee is Prof. James G. Clark of the Department of Civil Engineering, University of Illinois.

Other members of the Rules Committee are: Prof. E. E. Dreese, Dept. of Civil Engineering, Ohio State University; Raymond Archibald, chairman, AASHO Bridge Comm., U. S. Bureau of Public Roads; Harry C. Boardman, director of research, Chicago Bridge and Iron Co.; Shortridge Hardesty, consulting engineer, Hardesty and Hanover, New York City; Lee E. Philbrook, asst. bridge engineer, Illinois State Div. of Highways; Prof. Frank W. Stubbs Jr., School of Civil Engineering and Engineering Mechanics, Purdue University.

Prospective participants may obtain complete information by addressing: The Secretary, The James F. Lincoln Arc Welding Foundation, P.O. Box 5728, Cleveland 1, Ohio.

Allied Arts Building

"An Allied Arts Building" is the subject for the 20th annual competition conducted by the Brooklyn Chapter of the American Institute of Architects. March 14 is the deadline for entries.

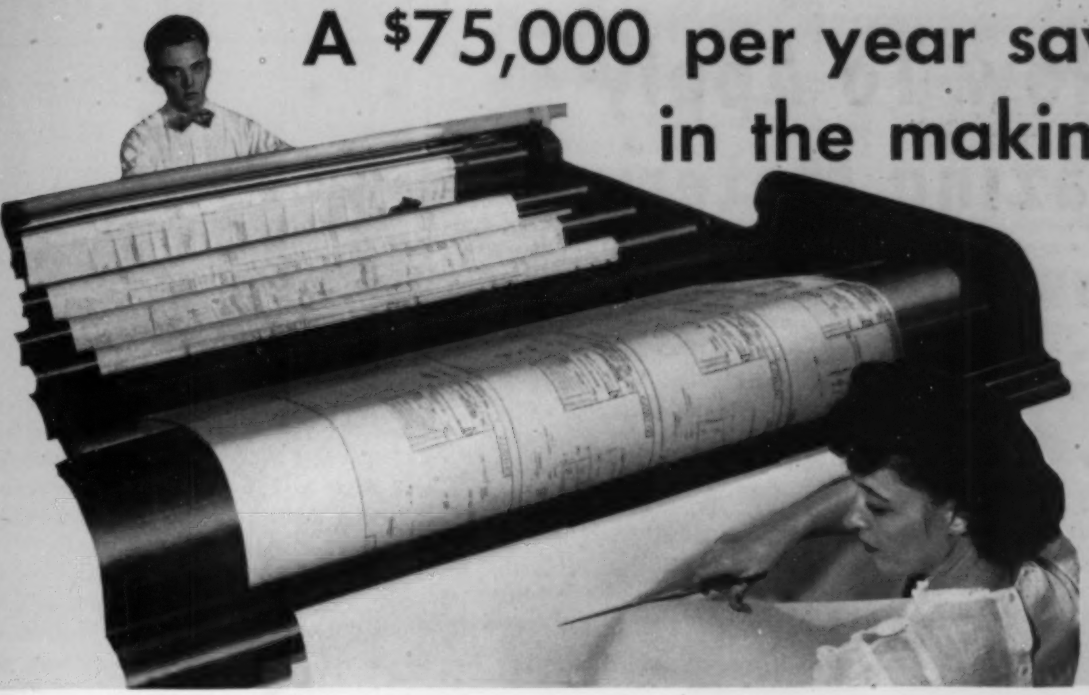
The competition is open to all students who have legal residence in the Chapter's territorial area (Brooklyn, Queens, Nassau, Suffolk) and who attend architectural schools anywhere in the United States, and to architectural draftsmen employed in or living in the territorial area.

Three prizes — $100, $50, and $25 — will be awarded, and winning designs will receive public recognition.

Programs and details may be obtained from Vito P. Battista, chairman of the Committee on Education, Brooklyn Chapter, A.I.A., 26 Court St., Brooklyn, N. Y.

(*Continued on page 150*)

A $75,000 per year saving in the making . . .



Streaming off this continuous processing machine at the Ford Motor Company . . . are Kodagraph Autopositive prints—positive photographic intermediates of original drawings. *The answer to a $75,000 per year redrafting headache!*

Before . . . Ford's valuable original drawings had a short life . . . had to do double duty in the drafting room and in heavy print production. In the latter operation, they were exposed to machine wear and tear, constant handling. Soon they lost their detail . . . produced illegible blueprints . . . which meant that new drawings had to be ordered from the drafting room.

Now . . . Ford's originals are filed away in the drafting room after Kodagraph Autopositive intermediates are made—available for reference and revisions only! All blueprints are produced from the "Autopositives," whose photographic black lines will not smudge or lose opacity . . . assuring highly legible prints even after hundreds of "run throughs." As a result of this simple change in routine, *redrafting costs are reduced by an estimated $75,000 per year . . . while the output of creative drafting is increased.* And print production is simplified, too . . . for Kodagraph Autopositives are not only longer-lasting . . . but can be printed at uniform, practical machine speeds.

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"The Big New Plus" in engineering drawing reproduction

You, too, can cut your drafting costs, get improved legibility, and simplify print production . . . by reproducing your drawings on this new, low-cost photographic intermediate paper.

You can turn out "Autopositives" quickly, economically . . . with your present print-making equipment and standard photographic processing. Or else you can order them from your local blueprinter. *It will pay you to get all the facts soon!*

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(*Continued from page 148*)

LeBrun Scholarship

Opening of the 23rd annual LeBrun Traveling Scholarship, a national competition offered by the New York Chapter of the American Institute of Architects, has been announced by Robert I. Carson, chairman of the chapter's Committee on LeBrun Scholarship.

Design of a suburban railway station is this year's competition subject. First prize is $2800, which must be used for travel and the study of architecture outside the continental United States for a period of at least six months.

Applicants must be nominated before February 10 by an A.I.A. member who will certify that the applicant meets competition requirements. These requirements are: U. S. citizenship and residence; age 23 to 33; at least two years' practical experience as architect or architectural draftsman. In addition, the applicant must never have been the beneficiary of any other traveling scholarship.

The first scholarship was awarded in 1912, under the terms of a deed of gift from Pierre LeBrun to the New York Chapter.

Further details may be obtained from the LeBrun Scholarship Commitee, New York Chapter, A.I.A., 115 E. 40th St., New York, N. Y.

ELECTIONS APPOINTMENTS

- Brig.-Gen. John S. Bragdon has been designated Deputy Chief of Engineers, Department of the Army, according to an announcement by Maj.-Gen. Lewis A. Pick, Chief of Engineers.
- John G. Bergdoll Jr., vice president and general works manager of York Corp., York, Pa., has been elected president for 1950 of the American Society of Refrigerating Engineers. Other officers for this year are: Paul B. Christensen, Merchants Refrigerating Co., New York City, and Edward Simons, consulting engineer, San Francisco, vice presidents; R. C. Jordan, professor of mechanical engineering, University of Minnesota, treasurer.
- Dr. George G. Brown, chairman of the Department of Chemical and Metallurgical Engineering at the University of Michigan, has been named director of

(*Continued on page 152*)

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with Pittsburgh Steeltex for Masonry Veneer

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PITTSBURGH STEEL PRODUCTS COMPANY

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Pittsburgh, Pa.

(*Continued from page 150*)

the U. S. Atomic Energy Commission's Division of Engineering, it has been announced by Dr. Lawrence R. Hafstead, director of AEC's Division of Reactor Development.

• E. E. Carl, Johns-Manville Corp., is the newly-elected president of the Chicago Chapter of the Producers' Council, Inc. Other officers for the coming year are: E. J. Bradbury, Chamberlin Co. of America, Inc., vice president; J. R. Keller, Aluminum Co. of America, secretary; W. M. Buchroeder, Jr., Alberene Stone Corp. of Va., treasurer.

• Edward J. Dennis of Kew Gardens Hills, Queens, N. Y., has been named vice president and general manager of the Gross-Morton Co., Long Island builders and developers.

• Capt. Joseph F. Jelley, Jr., Civil Engineer Corps., U.S.N., has been appointed to a four-year term as chief of the Navy's Bureau of Yards and Docks and Chief of Civil Engineers, succeeding Rear Admiral John J. Manning, CEC, USN. The appointment, which will elevate Captain Jelley to Rear Admiral rank, must be confirmed by the Congress.

• Robert B. Taylor of Newark, Ohio, has been named to the post of Director of Research for the new Structural Clay Products Research Foundation, Foundation Chairman E. F. Plumb has announced. Mr. Taylor has been assistant director of research for Owens-Corning Fiberglas Corp.

AT THE COLLEGES

Colorado Adds Five-Year Architecture Curriculum

A five-year curriculum leading to the degree, Bachelor of Science in Architecture, will be offered by the Department of Civil and Architectural Engineering of the University of Colorado beginning next September.

This course of study will be in addition to that in Architectural Engineering which was established 25 years ago and which has at present about 250 students.

The new curriculum will include five years of architectural design. It will also emphasize structure, Department Head Warren Raeder reports, "since we feel that the boldness of modern design requires an appreciation of both the esthetic and engineering."

Institute of Design Becomes Department of Illinois Tech

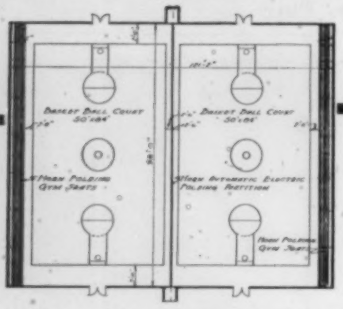
The Institute of Design at 632 North Dearborn St., Chicago, is now the department of design of Illinois Institute of Technology.

The design department will continue the Institute of Design curricula in industrial design and visual communications, and architectural students will be permitted to transfer to Illinois Tech's department of architecture, which will have the only course in architecture of the two former institutions.

Serge Chermayeff, president of the Institute of Design, is now director of the new design department. Ludwig Mies van der Rohe, director of Illinois

(*Continued on page 154*)

UTILIZE YOUR GYM SPACE WITH HORN


Basket Ball Court 50'x84'
Basket Ball Court 50'x84'
Horn Folding Gym Seats
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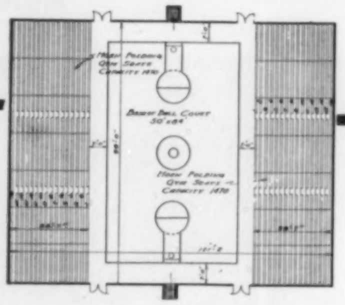
Horn Folding Gym Seats

Two regulation basketball courts separated by a Horn Automatic Electric Folding Partition. Horn Folding Bleachers in folded position.



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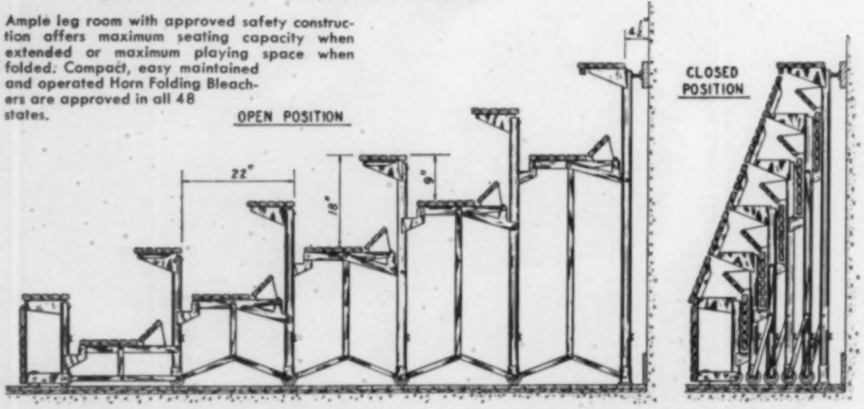
Ample leg room with approved safety construction offers maximum seating capacity when extended or maximum playing space when folded. Compact, easy maintained and operated Horn Folding Bleachers are approved in all 48 states.



ROWS	FLOOR SPACE		**HEIGHT	ROWS	FLOOR SPACE		**HEIGHT
	IN USE	*CLOSED			IN USE	*CLOSED	
3	4' 9"	1' 8¾"	3' 0"	12	21' 3"	4' 3⅛"	9' 9"
4	6' 7"	2' 0⅛"	3' 9"	13	23' 1"	4' 6½"	10' 6"
5	8' 5"	2' 3½"	4' 6"	14	24' 11"	4' 9⅞"	11' 3"
6	10' 3"	2' 6⅞"	5' 3"	15	26' 9"	5' 1¼"	12' 0"
7	12' 1"	2' 10¼"	6' 0"	16	28' 7"	5' 4⅝"	12' 9"
8	13' 11"	3' 1⅝"	6' 9"	17	30' 5"	5' 8 "	13' 6"
9	15' 9"	3' 5 "	7' 6"	18	32' 3"	5' 11⅜"	14' 3"
10	17' 7"	3' 8⅜"	8' 3"	19	34' 1"	6' 2¾"	15' 0"
11	19' 5"	3' 11¾"	9' 0"	20	35' 11"	6' 6⅛"	15' 9"

*Dimension includes 4½ in. space between top seat and wall.
**Height in open position same as closed. For Bleachers higher than 20 Rows write for complete details and dimensions.

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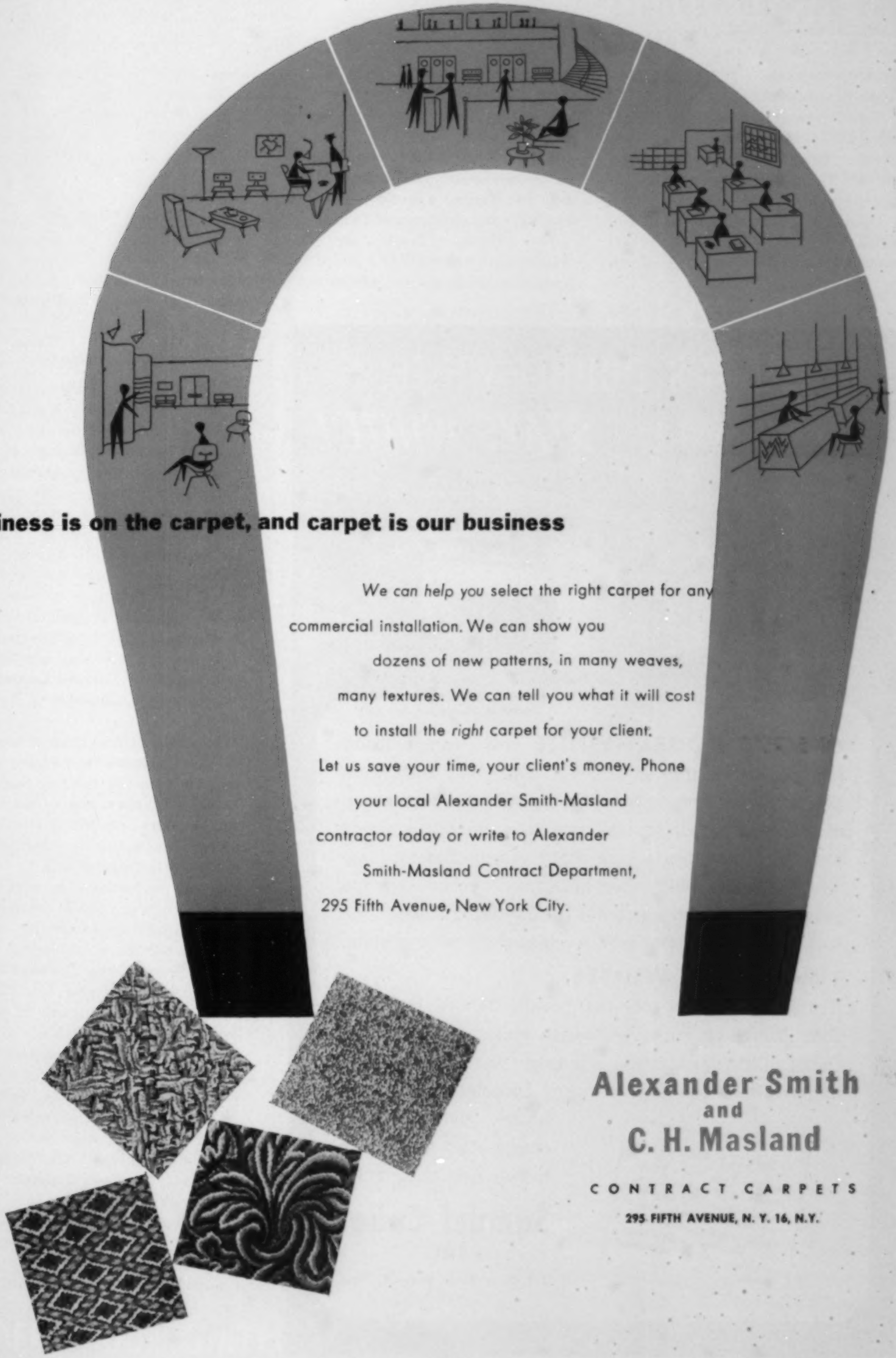

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(Continued from page 152)

Tech's department of architecture, continues in that position.

For the present the new design department will operate at its near north side location. Later it will be moved to the growing Technology campus on the central south side.

Opened in 1937, the Institute of Design was founded by Lazlo Moholy, who continued as its Director till his death in 1946.

Harley, Ellington and Day Give Michigan Scholarship

A scholarship of $1000 to be awarded each Spring for the next five years has been established at the College of Architecture and Design, University of Michigan, by Harley, Ellington and Day, architects and engineers, of Detroit.

The "Harley, Ellington and Day Scholarship," which will be awarded this Spring for the first time, will go to an upper junior student in architecture about to enter the two senior semesters in architectural design.

The recipient will be named by the faculty for "marked ability and promise." The scholarship will not be considered a loan, nor will it be given because of financial difficulties. Its purpose, according to the announcement from the College, is "to assist an outstanding senior student to reach a higher degree of attainment than might otherwise be possible."

Faculty Appointments

- William Wilson Wurster, nationally known California architect and Dean of the School of Architecture and Planning at the Massachusetts Institute of Technology, has accepted appointment as dean of the School of Architecture and professor of architecture on the Berkeley campus of the University of California. The appointment is effective next year.

Dean Wurster, who has been with M.I.T. since 1944, is an active member of the architectural firm of Wurster, Bernardi and Emmons in San Francisco. He is also, by Presidential appointment, chairman of the National Capital Park and Planning Commission of Washington, D. C.

One of the better-known of American architects, Wurster has designed several hundred houses in the Bay Region, in the Central Valley, Santa Cruz and on the Monterey Peninsula; but he has achieved distinction in other fields of architectural design as well.

Among his outstanding works have been Valencia Gardens Housing Project for the San Francisco Housing Authority, in association with Harry A. Thomsen Jr.; the Yerba Buena Club on Treasure Island during the 1939 San Francisco Exposition; and, in association with Corbett and MacMurray of New York, Stern Hall, women's residence hall on the Berkeley campus. Valencia Gardens Housing Project and the Schuckl and Co. office building at Sunnyvale, Calif., were chosen by the Museum of Modern Art as examples of significant American buildings of the past decade.

Wurster, a native of California and a graduate (1919) of the University of California, established his firm in San Francisco in 1926, after working for a time for Delano and Aldrich in New York.

(Continued on page 156)

CABOT'S DOUBLE-WHITE
THE WHITE PAINT THAT STAYS WHITE!

Architect: Irwin Jones, New York

CABOT'S DOUBLE-WHITE is a clean, brilliant, non-gloss white that stays white. Made only with white pigments that are not affected by chemical fumes and atmospheric gases. Double-White has tremendous hiding power . . . produces a pure white, velvety-smooth, long-wearing surface which never turns gray or yellow. Over the years, gradual chalking carries off the dirt and keeps the surface of Cabot's Double-White clean and fresh and white.

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Not only is an attendant unnecessary—boiler-room and ductwork expense was eliminated, too, by installation of a Dravo *Counterflo* Heater. Centered along the east wall, the Dravo *Counterflo* Heater is entirely self-contained—requiring only power and fuel lines and a small vent stack. Its 1,000,000 BTU output is directed slightly over the heads of the workers to blanket 10,000 square feet of unbroken plant area with draft-free warm air. Cold corners and excessive roof heat loss are eliminated. During summer months, a touch of the selector switch converts the Dravo *Counterflo* Heater immediately into a powerful air-circulating unit.

Dravo *Counterflo* Heaters are available in sizes ranging from 400,000 to 2,000,000 BTU output. Equally efficient with oil or gas and with or without ductwork, they can be floor-installed, wall-hung or roof-hung. Write for Bulletin HV-516. Heating Section, Dravo Corporation, Dravo Building, Pittsburgh 22, Pennsylvania.

According to Mr. Schulman, President of Sanatex Company, the Dravo *Counterflo* Heater "is the best equipment we ever had. Delivery of heat is virtually instantaneous when the unit goes into action—an important fuel-saving feature which eliminates the need for anticipating cold spells or keeping the heater in operation when the plant is closed."

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(*Continued from page 154*)

Dean Wurster will replace Prof. Warren C. Perry at California. Professor Perry resigned as dean last June, but will continue as a professor in the school of architecture.

- Ralph W. Fox, 37, has been named assistant chairman of the applied mechanics department of Armour Research Foundation of Illinois Institute of Technology. Fox has been a research engineer in the department for two and a half years.

- Several recent appointments to the teaching staff of the department of architecture of the University of Illinois have included: William S. Kinne Jr., professor of architecture; Gabriel Guevrekian, professor of architecture; Henry C. Edwards, instructor; James A. Prestridge Jr., assistant professor.

The university has inaugurated a new program of bringing outstanding practitioners as visiting critics in advanced design to live on the campus for six-week periods. Participants this year will include L. Morgan Yost of Kenilworth, Ill.; William T. Priestley Jr., Chicago; Karl Kamrath, Houston; Igor Polevitsky, Miami; Max O. Urbahn, New York.

Special Courses

- Harold R. Sleeper, A.I.A., is giving a course of 10 weekly lectures for prospective home owners at Columbia University. Entitled "A Practical Course for Home Builders and Buyers," the course seeks practical answers to the would-be home owner's problems in terms of today's conditions and costs.

- Elementary and Advanced Architectural Theory and Design is among the subjects listed by the New York State Institute of Applied Arts and Sciences for the Spring Semester of the Evening Extension Division. New courses in the structural field will include Real Estate Practice and Procedure, Building Codes, Estimating, and Structural Theory and Design. Among the subjects being continued are: Construction Laboratory, Plan Reading and Quantity Takeoff, and Structural Detailing.

- A Studytour to selected urban areas in the United States is being planned for professional people, teachers and students in related fields of urban planning,

(*Continued on page 158*)

Pass the big news along to your clients!

Recent Improvements by *American*

ADD EXTRA EASE EXTRA SAFETY

To Sterilizer Operation

Smooth, welded end ring of MONEL simplifies cleaning, helps prevent leakage

Tell your hospital clients about this! It means added convenience—and extra protection—in their sterilizer rooms.

Welded, forged end rings of solid Monel® are now standard on all 16" and 20" cylindrical pressure-type units made by AMERICAN STERILIZER COMPANY.

NO CREVICES

The new end ring permits joining the inner Monel shell and the Monel steam jacket shell in an all-welded construction.

No more rivets! No more solder! The inside of the Monel collar is perfectly smooth, always easy to keep surgically clean. What's more, the danger of leakage around rivet holes is ended.

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Solid metal through and through, Monel does not chip or peel. It has no surface coating to wear away. When you recommend Monel, you are offering clients a solid metal with solid advantages – and every one adds up to increased protection, long service life and reduced maintenance expense.

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In these sterilizers, your clients also get American's new "Cyclomatic Control." It is designed not only to simplify operation, but to guarantee complete sterilization. Nurse merely loads, sets timer and selector, turns starting valve. The entire sterilizing cycle is automatically governed. When buzzer sounds, nurse turns valve to "off" position, and removes sterilized load. There's no lost motion, no guesswork, no wasted time.

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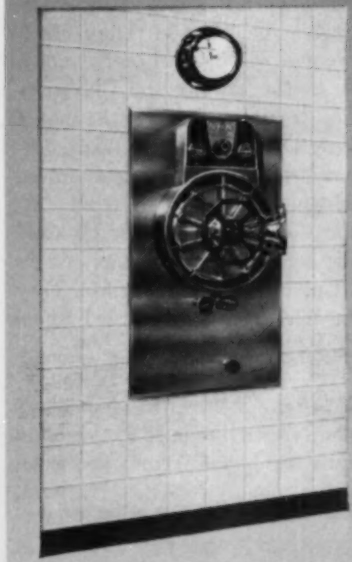
For full information about Monel pressure-type sterilizers with "Cyclomatic Control," write AMERICAN STERILIZER COMPANY, Erie, Pa.



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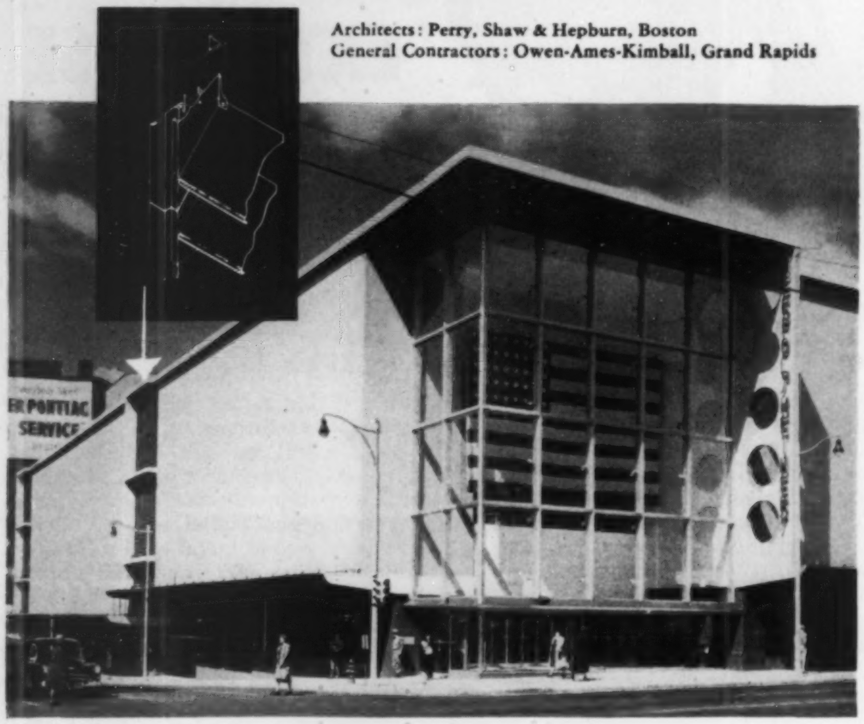

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THE RECORD REPORTS

(*Continued from page 156*)

housing and architecture for the Columbia University Summer session of 1950.

- Lehigh University will hold its second Product Design Seminar June 26 to July 21, 1950, again in cooperation with the Society of Industrial Designers.

Fellowships

- The 19th competition for the James Harrison Steedman Memorial Fellowship in Architecture will take place this Spring. The Fellowship is an award of $3000 for a year of study and travel in foreign lands.

The competition is open to all graduates of accredited architectural schools in this country who have had at least one year of practical work in the office of an architect, including one year's residence in St. Louis, Mo.

The competition consists of a 15-hour preliminary sketch followed by a six-week development period. The preliminary exercise will be held on Saturday, Mar. 4, at the Washington University School of Architecture, or, in the case of candidates living outside St. Louis, during the same hours under duly approved conditions.

Application blanks may be obtained from the School of Architecture, Washington University, St. Louis, Mo. They must be filled out and returned before Feb. 18, 1950.

- Applications for the Lowell M. Palmer Fellowship in Architecture at Princeton University will be received by the Secretary of the School of Architecture until March 1.

The purpose of the Fellowship is to assist a student of unusual promise in the advanced study of architecture at Princeton, including research in architectural composition at the Architectural Laboratory, and the opportunities offered through the close affiliation of the School of Architecture, the Bureau of Urban Research, the Department of Urban Research, the Department of Art and Archaeology, and the other graduate departments of the university.

The Palmer Fellow is exempt from tuition fees and will receive a stipend of $700 during his year of residence at Princeton. He will be entitled to all the privileges of a Fellow of the University, including residence in the graduate college buildings.

(*Continued on page 160*)

NOW... CURTIS *another exclusive achievement*

Note the remarkable, natural grain appearance of Prespine

the NEW PRESPINE

Now Curtis adds *another* major advantage to Prespine—the all-wood panel material that provides new value in Curtis doors, cabinets and other woodwork! Today, by an exclusive Curtis process, the beautiful natural grain of ponderosa pine is accurately reproduced on Prespine. Here is another example of the way Curtis research constantly enhances woodwork beauty and utility.

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Here's What's New About Prespine!

1. **Made by an exclusive Curtis process that duplicates the natural grain of ponderosa pine on Prespine.**
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10. **All exterior Curtis Prespine doors are treated with toxic-water repellent solutions to resist termites and decay.**

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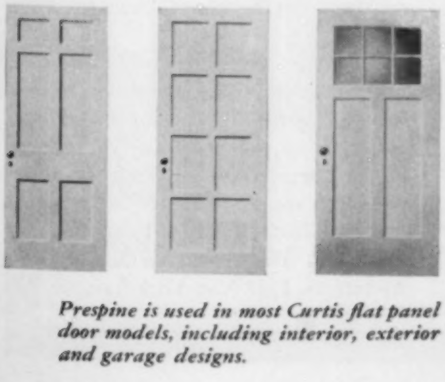
Made of finely divided wood by an exclusive Curtis process. Prespine panels withstand warping, shrinking and swelling. Prespine resists heavy impact blows . . . won't mar, dent or scratch readily . . . won't splinter or chip. It has superior rigidity . . . provides an ideal bond for paint or stain.



Prespine is used in most Curtis flat panel door models, including interior, exterior and garage designs.

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Gentlemen: I want to know more about Prespine as used in Curtis Woodwork. Please send additional information.

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Address..

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(*Continued from page 158*)

Applicants must be citizens of the United States, holders of a bachelor's degree, less than 27 years of age on Oct. 1, 1950, and in good physical condition.

In awarding the Fellowship, special emphasis will be placed on (1) achievement in architectural design; (2) personal qualifications; (3) scholastic record; (4) professional experience.

WITH THE A.I.A.

Gold Medal Award

Sir Patrick Abercrombie, M.A., Fellow of the Royal Institute of British Architects and internationally known British architect and town planner, will receive the Gold Medal of the American Institute of Architects at the 82nd A.I.A. convention in Washington, D. C., next May 10–13.

Sir Patrick, who will be the sixth foreign architect to receive the Gold Medal, highest honor the Institute can bestow, was the Royal Gold Medallist in 1946. For the past 11 years he has been professor of town planning at the Bartlett School of Architecture, University College, London. Earlier, he was for 20 years professor of civic design at Liverpool University.

In announcing the selection of the Board of Directors, Ralph Walker of New York, A.I.A. president, said the award was made in recognition of Sir Patrick's "distinguished contribution to the profession of architecture and regional planning."

A.I.A. Honor Awards

Awards for distinguished accomplishment in three classes of buildings — residential, commercial and religious — will be made in the second annual nationwide program of honor awards for current work of the American Institute of Architects.

All entries must be buildings designed by registered architects practicing professionally in the United States, although the buildings may have been erected either in this country or abroad. Buildings must have been erected since Jan. 1, 1945.

Entries, which must be prepared and submitted according to mandatory rules of the program, must be submitted directly to national headquarters of the American Institute of Architects and shipped on or before April 26.

A First Honor Award and a number of Awards of Merit in each classification will be selected by three separate national juries, one for each classification. Announcement of awards will be made on May 11 at the 82nd convention of the A.I.A.

All entries receiving awards, and such other entries as the juries may select, will become A.I.A. property for exhibits.

Copies of the program of National Honor Awards are available to architects who are not members of the A.I.A. from the Department of Education and Research, The American Institute of Architects, 1741 New York Ave., N. W., Washington, D. C.

(*News continued on page 162*)

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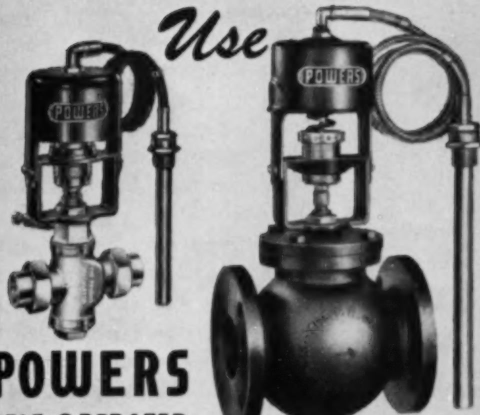

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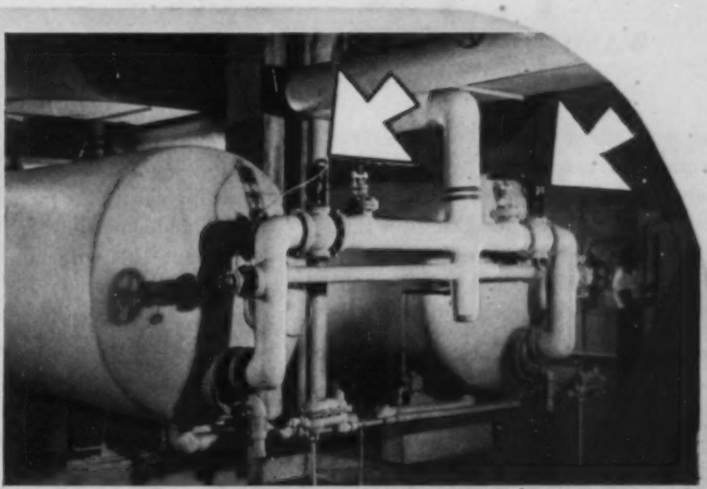
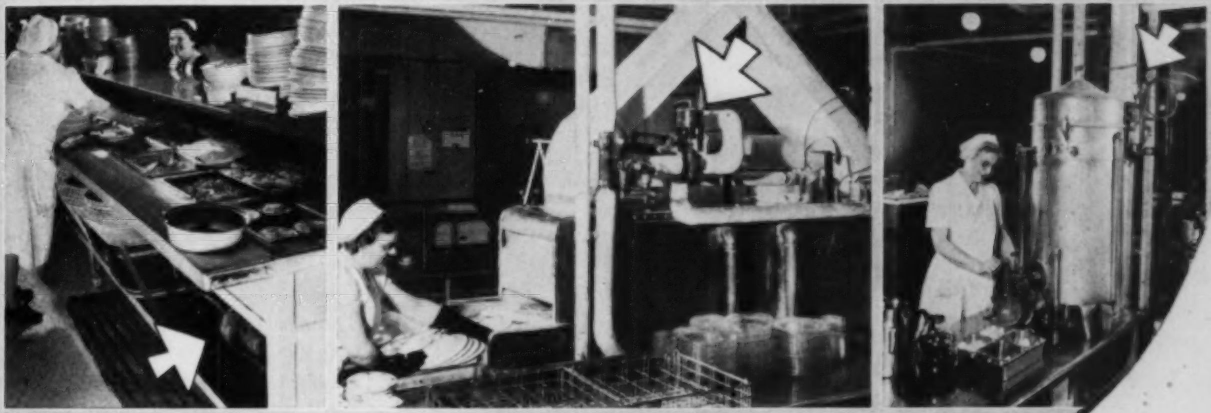
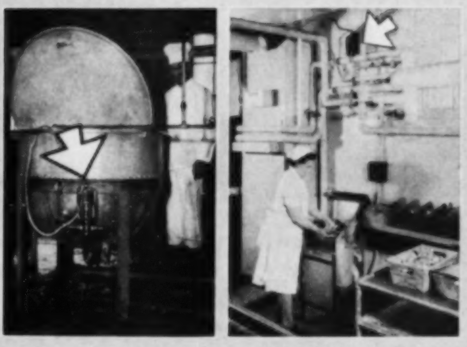


Above: WATER HEATERS at Northwestern University



Above: STEAM TABLE—Center: DISHWASHER—Right: COFFEE URN—all at Marshall Field & Co.



COOKING KETTLE • Above: SILVERWARE WASHER
Below: DISHWASHER—both at Marshall Field & Co.

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WASHINGTON NEWS *by Ernest Mickel*

The preelection session of the 81st Congress is not likely to upset the clearest conclusion reached in all the preliminary prophetic writings — that total volume of construction put in place during 1950 would not vary to any great degree from that of 1949. All the fulminations on Capitol Hill this season will not alter the outlook for a definite increase in the public work ratio.

Programs determined in 1949 will be worked out this year and thereafter. The divergent trends in public and private construction will carry over.

Economists in General Services Administration say public construction in 1950 can account for as much as $6 billion out of a total $19 billion volume. Such a percentage would bring the public construction ratio to a little more than 31 per cent. In 1949 it was 27 per cent.

Significantly then, public construction now is just beginning to reach the same range as the average proportion during the 20-year period from 1920 through 1939. Obvious reasons have delayed this pick-up on public building. As stressed on every occasion by General Services personnel, depression, war and postwar enigmas piled up a hitherto unimagined backlog of need; need for municipal utility improvements, for new schools, churches, hospitals, public buildings and every type of construction needed to serve an expanding economy. Increasing population is another source of pressure.

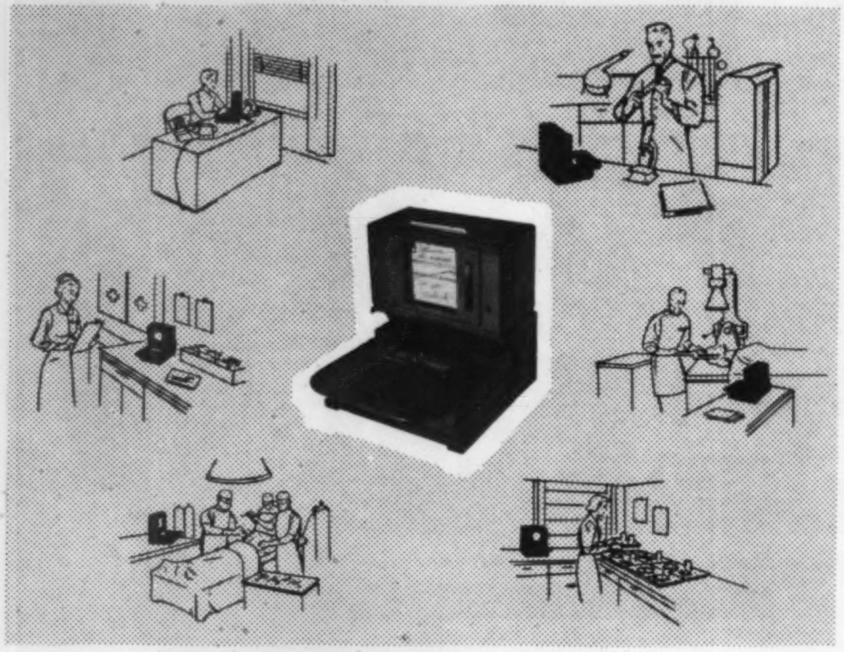
Wartime and later cross-migrations have added to the demands. New developments for housing mushrooming on the fringe of metropolitan areas continue to create a vast potential for architectural and engineering services. As GSA puts it, full employment and a very high national income have resulted in an accepted higher standard of living. All this has added to needs already backed up by long postponement of construction.

What's being done? Private and public sources acknowledge that present and projected accomplishments fall far short of meeting this piled-up construction need; a reservoir of demand that requires billions of dollars in public funds and private investment. But already Congress is talking economy — and will practice it before the current session ends. The money to cover loans to states and cities for advance planning of public works has been allocated, the public housing program is pushing ahead. These, however, appear to be small stabs at the larger problem.

Housing Legislation

There was a call, meanwhile, from both private and government people for a 1950 betterment of the record number of approximately one million housing units added to the country's inventory last year. Such an increase, if it comes about in substantial proportions, in turn must be reckoned with in terms of

(*Continued on page 164*)



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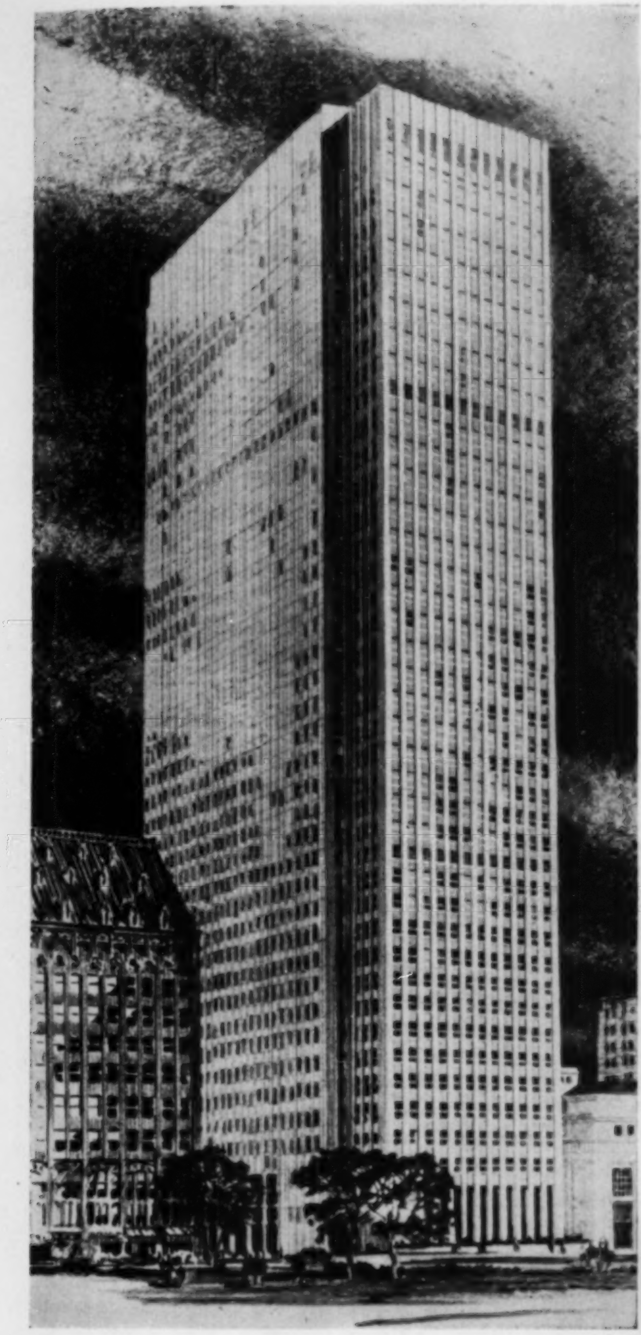
will be used in
PITTSBURGH'S NEWEST SKYSCRAPER

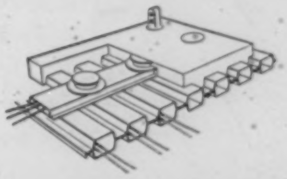


MELLON-U. S. STEEL BUILDING
Pittsburgh, Pennsylvania
HARRISON & ABRAMOVITZ, Architects
WILLIAM YORK COCKEN, Associate Architect
TURNER CONSTRUCTION CO., Builder

Soon to rise above Pittsburgh's Golden Triangle is the new Mellon-U. S. Steel Building. The owners are building wisely for they have insisted on Robertson Q-Floor, an element in the structure that will contribute most to keeping the building electrically modern, and free from Office-Building-Old-Age.

Q-Floor is a steel cellular sub-floor welded to the structural frame. It goes in quickly and immediately becomes a working platform for all trades. The clean, dry construction results in continuous work even in freezing weather and eliminates delays due to older-fashioned construction methods. Suspended ceiling, ducts, and other mechanical features of the building hang from the underside of the Q-Floor.

The steel cells of Robertson Q-Floor function as a super-efficient underfloor electrical duct system. Outlets for all services are available exactly where needed. Desks, partitions, business machines can be located and relocated with complete freedom. Q-Floor will keep the Mellon-U. S. Steel Building in step with every new electrical development the future brings.



RIGHT. At the Commercial National Bank in Shreveport, La., (McKim, Mead & White, architects; S. G. Wiener, Asso. Archt.) Q-Floor is installed. It is welded directly to the beams over which light-weight concrete fill is placed to provide a level surface. The cells are available for the distribution of electrical and telephone wiring. Changes can be made quickly.

H. H. ROBERTSON COMPANY
2404 Farmers Bank Building, Pittsburgh 22, Pa.

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Address...

City.......................*Zone*......*State*.........

WASHINGTON

(*Continued from page 162*)

still more public works construction to service it.

The President's messages to Congress confirmed what was already known; that the Administration seeks modification of housing laws, new legislation to encourage more housing construction for middle-income families, and a 50 per cent increase in total home output.

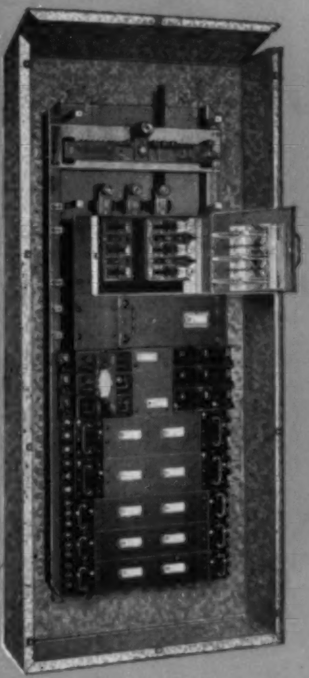
Architects are pointedly concerned in the current effort by federal housing groups to increase the size of the so-called economy house. Efforts are being made to change the law in the direction of larger guarantee percentages (but not more actual money) for three-bedroom houses. This carries the incentive changes made in the National Housing Act last summer a step further. The Housing and Home Finance Agency remains convinced that there is a vast "untapped" sale market for home builders in the $7000 to $9000 range. Smaller down payments are an objective as well.

(For the record, HHFA considers a middle-income family as any with income from $2700 to $4400 a year. Assuming 20 per cent as a fair payment for shelter costs, the range of payment for these families then is from $45 to $73 per month, a median of about $59 or $60. The formula is applicable to urban families only, and according to the 1948 census an estimated one-third of all city families now falls in this category.)

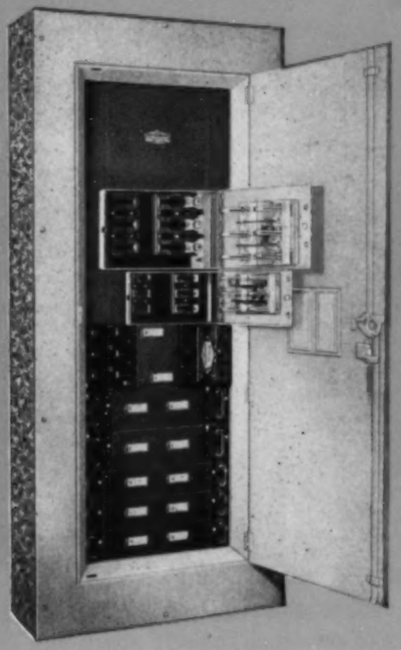
When the die has been cast on 1950 legislation there still will be a program of Federal Housing Administration home mortgage insurance. This is certain in spite of the fact the HHFA is recommending the final retirement of Sec. 608 (Title VI) as such. Operating under continued reprieves since the war, this program on large-scale rental housing developments probably will be retained in its essential features. A new amendment under Sec. 207, Title II, has been suggested to catch the remnants of 608.

The broader plan for a change in the present housing law contemplates a private capital cooperative which would entail, again, the federal backing of private money investments. The last extension of Title VI, Sec. 608 mortgage insurance carried the plan through March 31. Unless Congress gets bogged

(*Continued on page 166*)



FA **FEEDER PANELBOARD**



Re-designed inside and out

LESS SPACE IS REQUIRED for the same panelboard requirements in the *re-designed* FA FEEDER PANELBOARD . . . without sacrificing such popular FA features as generous wiring space and ease of installation.

This improved, compact FA FEEDER PANELBOARD is built of standardized units and assembled as required for specific application. Four standardized widths, 10 standardized heights and 3 standardized depths of boxes meet any requirement. Boxes are shipped from stock . . . with removable ends to permit drilling conduit openings on the job. Panels are readily installed after boxes are in position.

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FA KLAMPSWITCHFUZ capacities: 30 to 600 amps., 250 volts AC or DC; and 30 to 200 amps., 600 volts AC in 2, 3 and 4 pole types, single or double throw.

For more information about the *re-designed* FA FEEDER PANELBOARD, talk it over with your FA Representative (he's listed in Sweet's).

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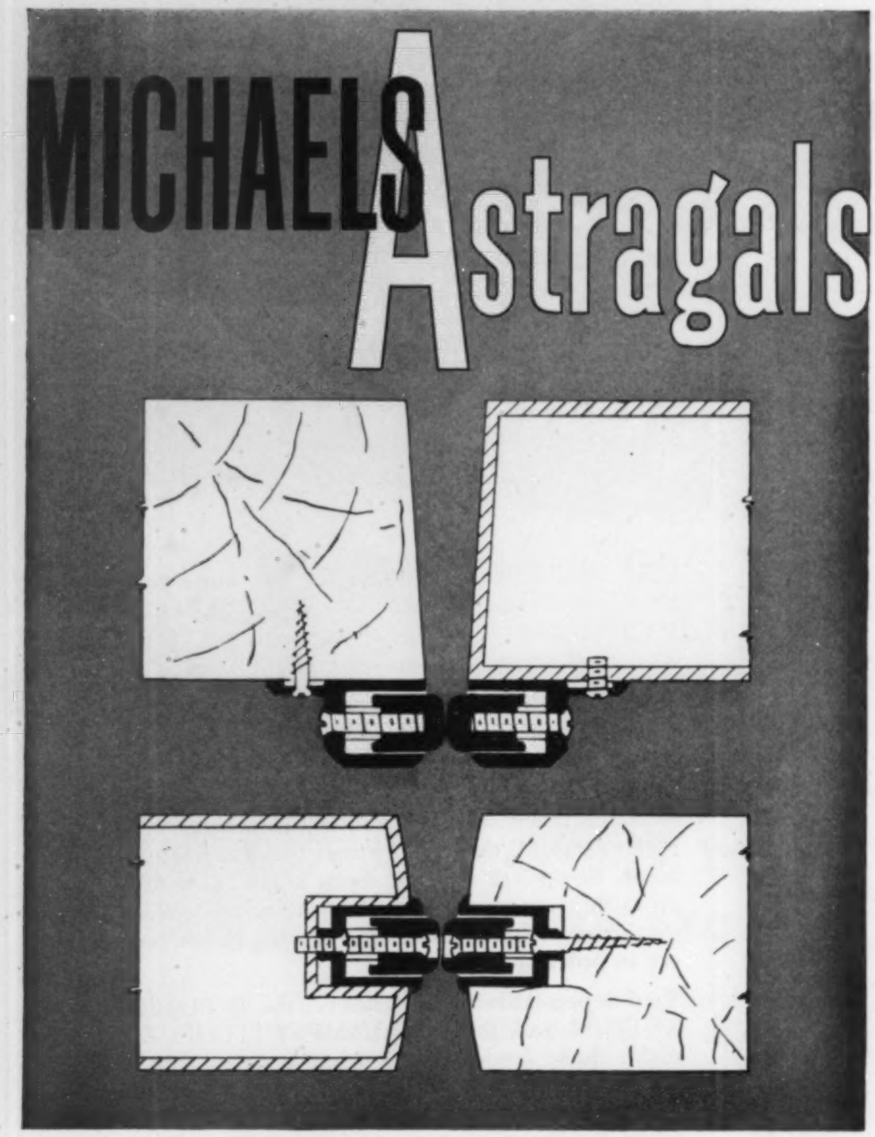

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THE RECORD REPORTS

WASHINGTON

(Continued from page 164)

down with a civil rights filibuster, it is likely floor action on new housing proposals will come before that time.

Progress In Research

There were two important developments on the research front during the past month: Dr. Richard U. Ratcliff of Wisconsin University took over as new Director of Housing Research in the Housing and Home Finance Agency, and the Building Research Advisory Board held its first conference — on weather effects.

Said Dr. Ratcliff after his appointment by Administrator Raymond M. Foley: "It is trite but true to say that Public Law 171 — the Housing Act of 1949 — marks the dawn of a new and promising day in housing research." He sees its greatest importance in the recognition of the role of research in the attempt to provide a decent home and a suitable living environment for every American family.

HHFA's new Director of Housing Research

As details of the comprehensive housing research program are worked out under the new director, they will encompass five major objectives:

1. The production of housing of sound standards of design, construction, livability, and size for adequate family life.
2. The reduction of costs of housing without sacrifice of such sound standards.
3. The use of new designs, materials, techniques, and methods in residential construction, the use of standardized

(Continued on page 168)

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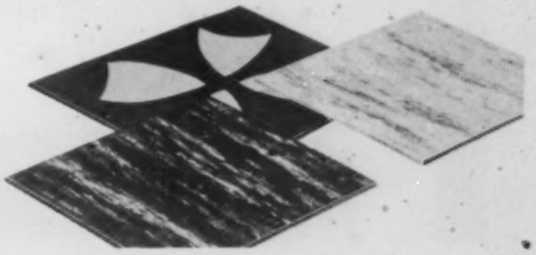

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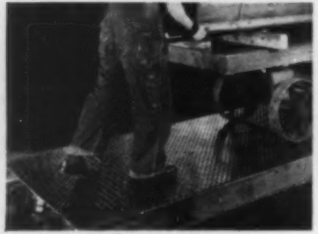

Safe Footing

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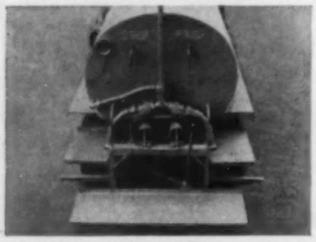
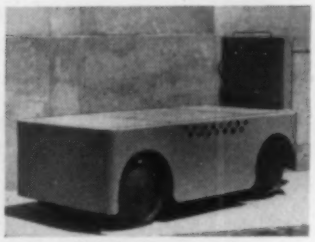


Firesafe



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STOCKED BY LEADING STEEL WAREHOUSES

WASHINGTON

(*Continued from page 166*)

dimensions and methods of assembly of home-building materials and equipment, and the increase of efficiency in residential construction and maintenance.

4. The development of well-planned, integrated, residential neighborhoods and the development and redevelopment of communities.

5. The stabilization of the housing industry at a high annual volume of residential construction.

It is clear that under Dr. Ratcliff's leadership the research effort will take the long view; the program will not proceed too fast for its own good. He means to put first things first, to identify and evaluate the problems of housing before defining even the fundamentals of investigating these problems. Also, through his first remarks following the appointment runs the philosophy of further economies in home production. Besides financial costs, the director plans to cope with social costs which include discomfort, inconvenience, irritation and discontent, misery, ill health, disease and loss of working efficiency, family disruption and disorganization, group tensions and conflict.

A large order, any way it is interpreted.

Future operations of the building industry will be affected as well by the steps outlined by the BRAB under direction of William H. Scheick. Six specific projects are to be started immediately and the weather conference already has given concrete evidence of the Board's programs. The six specifics are:

1. A survey to develop a list of urgent problems of the building industry susceptible to solution by research. This information will be sought by a canvass of research agencies, trade and professional organizations, and technical and research personnel in the industry.

2. A series of research correlation conferences to bring together those actively engaged in research along specific lines in order to explore and evaluate subjects, review accomplishments and chart future action. (The weather conference is an example.)

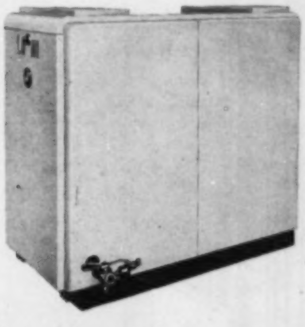
3. Initiation of detailed analysis of "master outline" of building research and related fields to clarify the present

(*Continued on page 170*)

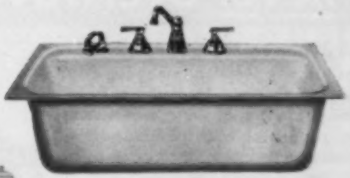
100 NEW MINNEAPOLIS HOMES are Happy with *RICHMOND*

Aerial view of Woodlawn Park, Minneapolis. These 100 new homes built by Wilkorp, Inc. *all* have Richmond Plumbing Fixtures and Richmond Gas-Fired Winter Air Conditioners—distributed by Globe Plumbing Supply Company. Plumbing installed by Tabaka Plumbing—heating installed by Welter Heating Company.

The Richmond Phoenix 2-piece, close-coupled closet comb., plate G-217



The Richmond Gas-Fired Winter Air Conditioner, type GHA



The Richmond Stratton flat-rim sink, plate 2110

The Richmond Lorain shelf-top lavatory, plate 837

The Richmond Breslin recess bath, plate 225

Richmond Plumbing Fixtures and Winter Air Conditioner Installed

Richmond proved a wise choice for these fine new homes in Minneapolis's Woodlawn Park Section. The four Richmond Plumbing Fixtures and the Air Conditioning Unit installed in each of the 100 homes bear the famous Richmond stamp of quality—quality of appearance and quality of performance.

Whether it's a single replacement or a large development, you can be sure when you select Richmond. You can be sure of efficiency in operation and beauty of design. You can be sure of satisfied clients—happy with Richmond serving their plumbing and heating needs.

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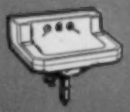
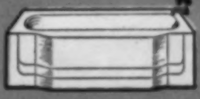
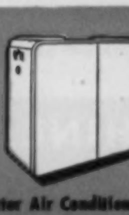


Vitreous China

Gas Boilers



Enameled Cast Iron Ware



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WASHINGTON

(*Continued from page 168*)

picture of building research. This will necessarily be a long-term project.

4. Encouragement of government agencies concerned with building research to avail themselves of the advisory services of BRAB.

5. Cooperation with builders' and contractors' associations to promote field tests and demonstrations of research results as a method of speeding up the application of technological advances.

6. Development of an effective program of publication and information.

Prefabs

As Congress convened, there was a possibility efforts would be made to revive the plan to establish a $25 million loan fund for supporting distribution of prefabricated housing — the so-called interim financing loans. This plan was defeated in the last Congressional session, but there was strong talk it might be proposed again.

Simultaneously, the Reconstruction Finance Corporation said it would make no more production loans to Lustron Corp. at Columbus, O.; at least until it might be ordered to do so by Congress. This word came just as Lustron was preparing to ask for an additional loan of $12.5 million to get it out of the red.

The whole Lustron inquiry appeared to be coming quickly to a head. Rep. Albert Cole (R-Kans.) was pressing his advantage after inaugurating a full investigation last August. He wrote the federal lending agency asking for a full accounting of the Lustron loans. He will not let the matter cool. Meanwhile, RFC's legal staff had requested Lustron to file an explanation as to how it hopes to get out of the current contretemps.

Other organized prefabbers never have been too enthusiastic over the production loan idea. Interim financing would be more acceptable.

SHORTS

- The Army has been perfecting an all-plastic house with the advantage of more durability for storage. Packaged utilities, also worked out for manufacture from plastics, have been designed. While referred to as a challenge to the plastics industry because of a huge potential market, it was acknowledged extremely high production costs will cool industry interests for some time to come.

- The Defense Housing Commission, a three-man team appointed by Defense Secretary Johnson to study military housing needs, has returned from an inspection trip in Alaska.

- A graphic-arts mechanic at the Norfolk Naval Air Station has devised a new method for speedy reproduction of line drawings to scale by photo. Reversing the normal practice, the rear of the copy camera is made moveable and lens remains fixed. Graduated scales are installed on the bed for use in measuring size of copy desired. This makes it possible to turn out copies quickly and

(*Continued on page 172*)

THE *Sedgwick* ROTO-WAITER

...a new kind of fully automatic electric dumb waiter that never overtravels

FOR TWO-STOP INSTALLATIONS . . . the new Sedgwick Roto-Waiter, with its unique endless chain drive principle of operation, embodies those features of safety, dependability and economy that make it the ideal dumb waiter for schools, hospitals, hotels, restaurants, stores, banks, libraries, factories, clubs, residences and other commercial, institutional and industrial buildings.

Sedgwick Roto-Waiters . . .

1. **Never overtravel**
2. **Are completely factory assembled and tested**
3. **Operate automatically, safely with push-button control and doors interlocked.**
4. **Require only minimum clearances**
5. **Have an overload safety device for safe operation**
6. **Cut costs with simplified motor and control equipment**
7. **Require no heavy load-bearing supports, except at bottom**
8. **Are easy to install**

Dimension table lists three standard *counterweighted* Roto-Waiters. A Sedgwick *uncounterweighted* Roto-Waiter (with car size 24"x24" x36", 150 lbs. capacity) is also available when the dumb waiter is to be installed for undercounter use.

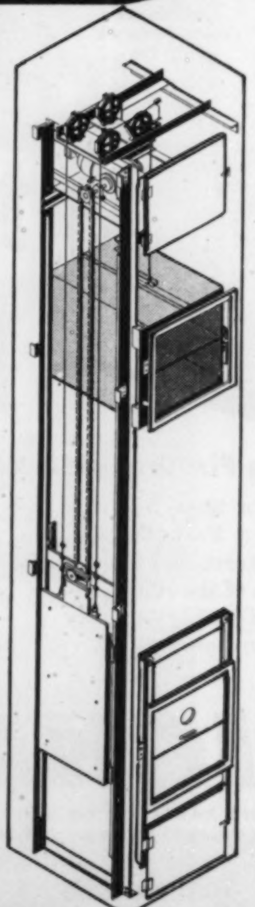
STANDARD ROTO-WAITER DIMENSIONS

Size No.	2C	3C	5C
Capacity, lbs.	200	300	500
Car width, in.	24"	30"	36"
Car depth, in.	24"	30"	36"
Hoistway width, in.	33"	39"	45"
Hoistway depth, clear in.	27"	33"	39"
Hoistway depth, including doors, in.	29"	35"	41"

Remember, too—the Completeness of the Sedgwick Line That Enables You to Meet Every Client's Requirement . . .

In addition to the Sedgwick Roto-Waiter, Sedgwick also builds Multi-Stop Electric Traction Dumb Waiters for three or more landings—with a wide selection of specially engineered control equipment and signal systems to suit individual service needs. Other Sedgwick Dumb Waiters—including both electrically and manually operated types—are likewise available in a wide range of sizes and capacities. Specify, too, Sedgwick Steel Dumb Waiter Doors for complete satisfaction.

Feel free to consult our engineers, who will be glad to work with you on any vertical transportation problem.



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ELEVATORS · DUMB WAITERS · RESIDENCE ELEVATORS · STAIR-TRAVELORS
ROTO-WAITERS · SIDEWALK ELEVATORS · FREIGHT ELEVATORS · DUMB WAITER DOORS
THE MAXIMUM IN SAFETY . . . THE ULTIMATE IN ECONOMY — SINCE 1893

"New Marlite Patterns perfect for matched panel work"

—*says registered architect* **Charles J. Marr,**
past president, architect's society of ohio

"For the striking new Elk's Club at New Philadelphia, Ohio, we specified Marlite Wood Patterns for stairways, auditorium, ladies' lounge and cocktail bar. Faithfully reproducing the beauty and grain of fine selected woods, these versatile plastic-finished wall and ceiling panels provide a permanent surface that will eliminate costly periodic painting and redecorating—mighty important to any customer."

Learn how you can offer *your* clients smart, luxurious interiors at big new savings. Write for new Sample Folders showing wonderful design ideas possible with Marlite. You'll like this easy-to-work-with material. Mail coupon to: Dept. 205, MARSH WALL PRODUCTS, INC., Subsidiary of Masonite Corporation, Dover, Ohio.

Interiors in the beautiful new Elk's Club, New Philadelphia, Ohio, showing decorative possibilities of Marlite Wood Pattern wall panels.

Marlite
PLASTIC-FINISHED
WALL PANELS

MAIL TODAY!

Yes, I want to know more about Marlite. Please send my free set of Sample Folders.

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ADDRESS____________________

CITY__________ ZONE_____ STATE________

FOR CREATING BEAUTIFUL INTERIORS

WASHINGTON

(*Continued from page 170*)

without unnecessary waste of film due to guesswork.

• All government agencies concerned have issued new orders on tie bids which will aid small business firms in getting contracts in distressed employment areas. The orders determine award of contracts where equal bids have been received and where both large and small concerns are bidding.

• Basing point problems are due for more airing in Washington. Settlement of the proposed consent order in the steel case was still in question as the new year began. Furthermore, it was pretty certain Commerce Secretary Sawyer's new interagency committee on competition and monopoly would get into the pricing practices and wind up with a conclusion or two regarding freight absorption and other aspects of the basing point problem. Congress will consider it again also.

• By December 1, 1949, the Federal National Mortgage Association had purchased FHA-insured or VA-guaranteed home mortgages in the total amount of $767,211,000. It had outstanding contracts to acquire additional mortgages aggregating $792,127,000. This secondary mortgage operation was well fixed financially for future functioning.

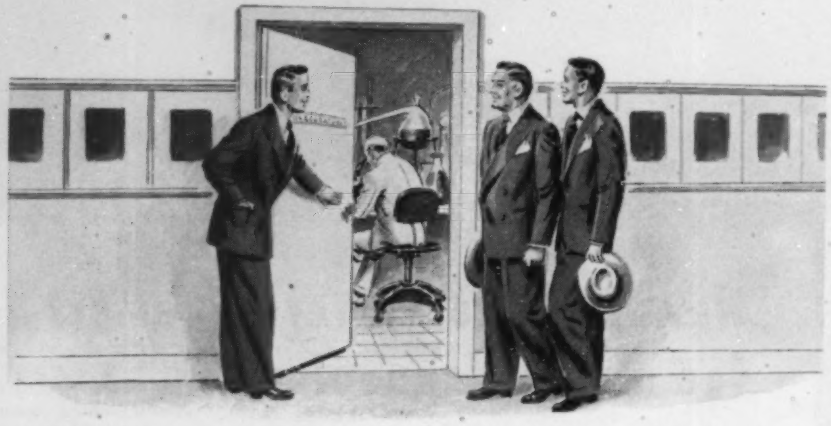
• The American Legion has launched a survey to prove or disprove the recent contention of former President Herbert Hoover that 70,000 federal hospital beds are unoccupied while efforts are made to build facilities for 50,000 additional beds. The Veterans Administration hospital construction program continues to operate on the curtailed schedule assigned a year ago in an order signed by President Truman.

• Tests of "rubber highways" are being made in Virginia. A small amount of natural rubber has been incorporated in asphalt highways and has been found to lessen skidding materially.

• It is estimated the prefabricated housing industry shipped 35,000 permanent units of wood construction in 1949. This is an increase of 16.67 per cent over the 30,000 shipped in 1948. Eighty-five companies were covered in a survey which resulted in the preliminary estimates.

• Civil Aeronautics Administration has issued new information on airport planning and design. The pamphlet, *Airport Design*, covers general principles of airport planning and design and emphasizes preliminary steps involving size and type of field to be constructed, site selection, airport layout, plans and specifications and details of design. Drawings show a variety of model airport layouts for both large and small fields. Airport Design discusses soils, paving, drainage, lighting, turfing and other items important to sound airport construction.

(*News continued on page 174*)



"Our LABORATORIES are KEWAUNEE Equipped"

That's the short way of saying all that needs to be said about the very finest quality of material and workmanship, the most modern streamlined designs in matching units, richness of lasting finish, extra working conveniences and long lasting service.

Like the names on America's finest motor cars, you are always proud to say, "Our Laboratories are Kewaunee Equipped."

Be sure to see what "Kewaunee" offers you in extra values without extra cost when you need furniture equipment for any Laboratory, new or old.

Write for the Kewaunee Catalog. Specify whether interested in wood or metal. Address—

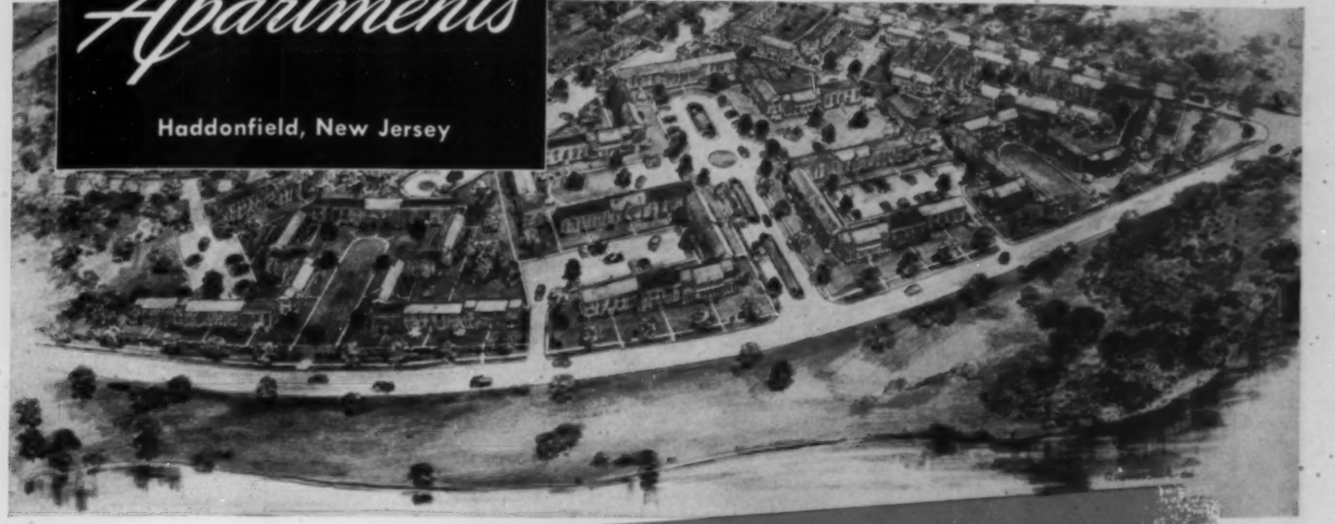
Kewaunee Mfg. Co.
C. G. Campbell, *President*

5046 S. Center St., Adrian, Michigan—Representatives in Principal Cities

Parkway Apartments

Haddonfield, New Jersey

Another
B & G *Hydro-Flo* HEATING
Installation



Owner:
Parkway Apartments, Inc.
Haddonfield, N. J.

Architects and Engineers:
Edwards & Green
Camden, N. J.

Builder:
Edwards Building Co.
Delaware Township, N. J.

Heating Contractor:
Herman Goldner Co.
Philadelphia, Pa.

22—B & G Universal Pumps
4150—B & G Copper Monoflo Fittings
11—Bronze-bodied Boosters (for domestic water supply)
28 B & G Flo-Control Valves
31 B & G Simplex Relief Valves
31—B & G Compression Tanks

Illustration above shows the kind and number of B & G Hydro-Flo Products installed in Parkway Apartments.

Soon to be completed, this modern housing project provides shelter for 362 families. The selection of B & G *Hydro-Flo* Heating was prompted by the well-known comfort-economy advantages of this system.

The project is divided into eleven groups of buildings with a boiler room for each group. Trunk supply and return mains run the length of each group, with Monoflo single mains led into the individual four-family buildings. Mains are copper tubing with B & G Copper Monoflo Fittings on both the supply and return risers to the convectors.

Here again is another demonstration of the universal application of B & G *Hydro-Flo* Heating. Cottage, apartment, commercial or industrial building—all are more comfortably and economically heated with this modern forced circulation hot water system.

Write today for full information

"Capture the Sun with B & G *Hydro-Flo* Heating" presents the colorful story of this forced hot water system . . . the B & G Catalog gives you complete product data. Send for your copies.

BELL & GOSSETT Company

Dept. BJ-32, Morton Grove, Ill.

*Reg. U. S. Pat. Off.

(*News continued from page 172*)

Agreement Is Reached On New Fee Schedules

Maximum fees to be allowed for architectural services for the public housing program have been established on a "fixed fee plus reimbursable contract" basis, the American Institute of Architects has announced.

The newly approved fee schedule was worked out jointly by the A.I.A., the Public Housing Administration and the National Association of Housing Officials after both the N.A.H.O. and the A.I.A. had requested reconsideration of a fixed fee schedule announced by PHA in October.

The new basis of compensation, while generally 2.5 times payroll costs, provides for a contract which establishes a fee to include three factors: a fixed amount equal to forty per cent of the maximum fee schedule contained in the PHA schedule; an amount for "timecard costs" (technical payroll) which would be reimbursed to the architect on presentation of cost data approved by the local housing authority; an amount for overhead equal to 50 percent of "timecard costs."

As an alternate, now designated Option No. 1, the PHA intends to retain its previously approved schedule of fees. The new schedule will be known as Option No. 2. The decision as to whether the architect's contract is based on Option No. 1 or Option No. 2 will be left entirely to the determination of each local housing authority and its architect.

Representing the A.I.A. in the negotiations were members of the Committee on Fees: Clarence B. Litchfield, chairman; Harry M. Price, vice chairman; and David H. Morgan.

OFFICE NOTES

Offices Opened, Reopened

James P. Lockett, Architect, announces the opening of his office for the practice of architecture at 212 West Main Street, Visalia, Calif.

Guy B. Panero, Engineer, of New York, announces the opening of a branch office with Walter L. Rubel in charge at 1406 "G" Street, N. W., Washington, D. C.

Mair Samuels has opened an office for the general practice of architecture at 1225 Langham Ave., Camden, N. J.

Selby M. Wheeler, Architect, announces the opening of his office at 803 Security Bldg., Denver, Colo. Mr. Wheeler was formerly associated with Raymond Harry Ervin, Architect.

New Firms, Firm Changes

The firm of Architects, Richard Hawley Cutting, Anthony S. Ciresi and Associated Architects has become Richard Hawley Cutting Associates, with offices at 2074 E. 36th St., Cleveland 15, Ohio.

Hutchings & Milani, architects, engineers & constructors, of Hamilton, Bermuda, announce the formation of a subsidiary company, Bermuda-Caribbean Consultants Ltd., which will handle all the firm's foreign work, especially its hotel and resort development program in the Caribbean area. The firm's president and secretary, Louis C. Milani, is also president and secretary of the sub-

(*Continued on page 176*)

TO ADD TO
THE Value
BUT NOT TO
THE COST
Specify
AZPHLEX
ASPHALT TILE

• For floors that will look better and clean easier . . . that will last longer under the hazards to which they are subjected by everyday family life . . . AZPHLEX Asphalt Tile is unsurpassed. Consider these AZPHLEX *plus values:*

MAXIMUM RESISTANCE to indentation by foot traffic, rolling or standing loads.

GREASE RESISTANT in the highest sense of the word — won't stain or soften if subjected to animal, mineral or vegetable greases, alkalis, alcohol or mild acid solutions.

THROUGH-AND-THROUGH COLORS and marbleizing that will never wear off — fine texture that keeps a smooth, easily polished surface.

UINFORM HIGH QUALITY and dimensional stability — every tile die-cut.

CUSTOM INSTALLATION to produce exactly the design you specify, in the colors you specify from our wide range of samples.

AZPHLEX is ideal for installation over wood, metal or concrete slab sub-floors, above, on or below grade. It is *flexible* — and so *tough* that 1/8" AZPHLEX is the equivalent of 3/16" regular asphalt tile. Available in 10 clear, true colors: 1/8" and 3/16" thicknesses: 6" x 6", 9" x 9", 6" x 12", 12" x 12", 14" x 28", 12" x 12" DUOTONE and 1" x 24" feature strips in all colors.

For complete information about AZPHLEX, call your AZROCK-AZPHLEX dealer — or write direct to

UVALDE ROCK ASPHALT CO.
Makers of AZROCK and AZPHLEX Asphalt Tile
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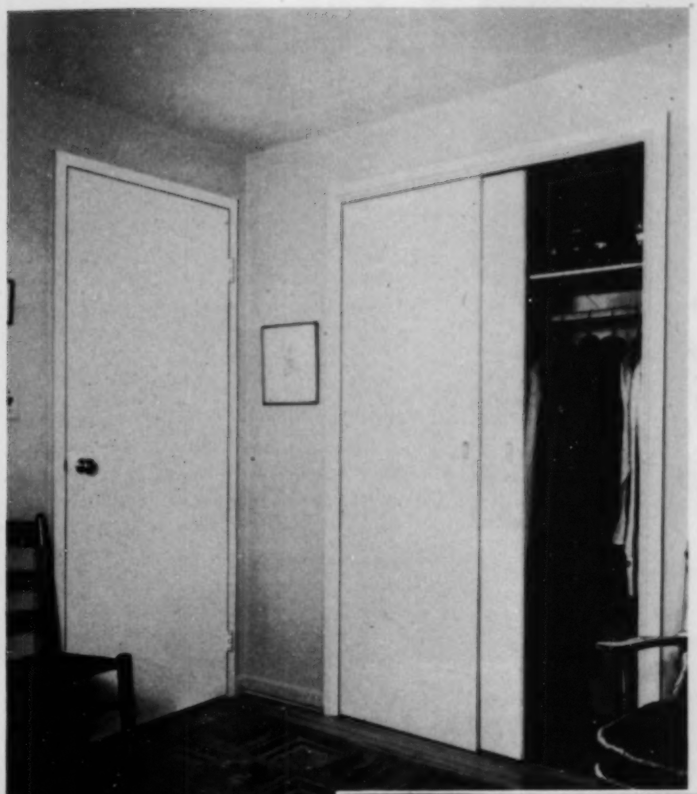
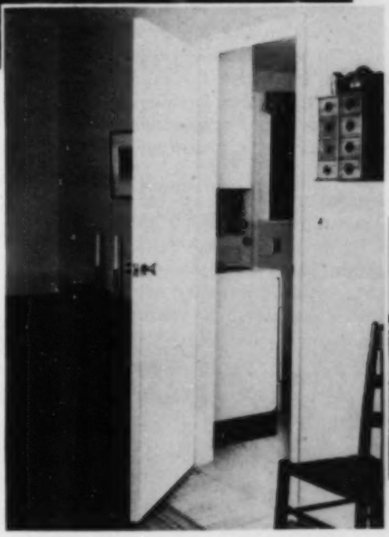
AMWELD ... the ultimate answer to

FLUSH INTERIOR STEEL DOOR, FRAME

and SLIDING CLOSET DOOR UNIT requirements





Large scale production, based on 32 years' experience in precision manufacturing, enables AMWELD doors and frames to cut building costs and provide lasting beauty with trouble-free service. AMWELD Steel Door & Frame Units are designed to meet today's modern construction standards, blend with all types of architecture and lend themselves to installations at rates up to five times as great as those where "assembled-on-the-job" units are used.

Doors are available in 1⅜″ and 1¾″ thicknesses; 1⅜″ available as single-swing or double-acting. These doors may be provided with integral louvers or vision panels. Doors are factory rabbeted and bored for standard hardware. Frames and hinges are furnished as a one piece welded assembly. To insure parallel alignment, removable steel spreaders are welded to bottoms of the frames. Doors are furnished with a neutral color primer, electrostatically applied and controlled; frames are rust-resistant primed.

AMWELD METAL SLIDING CLOSET DOOR UNITS

Sliding closet doors have definite advantages in the saving in space and increased accessibility to closet content, *plus* saving in initial construction cost. Steel door panels are formed on four edges, fitted with finger pulls. Jambs, header and track — the same high quality and construction as door frames. Available for 3′, 4′, 5′ and 6′ openings — 2 doors. AMWELD Steel Sliding Closet Door Units are also available in packaged, knocked-down units.

Photographs of
Graefield Terrace
Birmingham, Mich.

BUILDER: H. J. Durbin,
Detroit, Michigan.

ARCHITECT: Merle Wm. Hogan,
Detroit, Michigan.

Send for the illustrated **AMWELD BUILDING PRODUCTS** *A.I.A. File No. 16 containing complete specifications. Selection charts and installation diagrams are available for the asking.*

VISIT OUR BOOTH, No. 6,
at the NATIONAL HOME BUILDERS SHOW
Congress Hotel, Chicago, Feb. 19-23

see our CATALOG in SWEET'S FILE ARCHITECTURAL

Building Products Division

THE AMERICAN WELDING & MANUFACTURING CO.

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See our exhibit at
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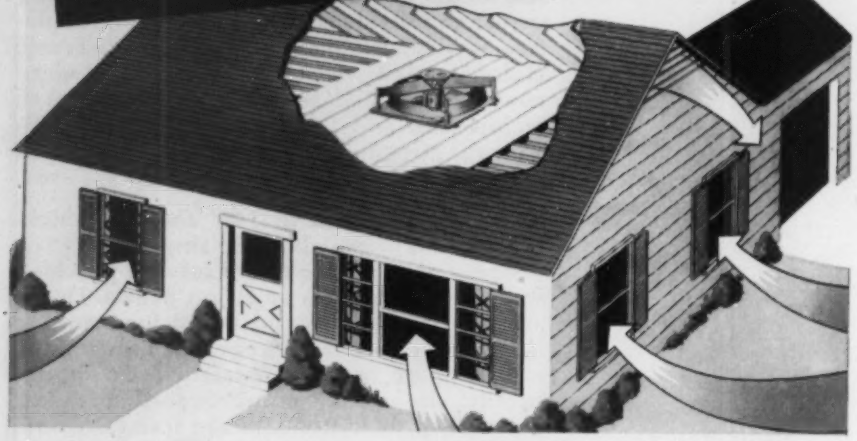
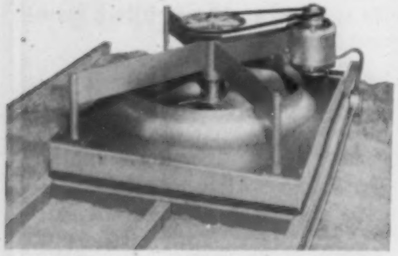
HUNTER ATTIC FANS
give your homes low-cost
Climate Control





Quiet, powerful, compact

Easily installed—provides cool comfort for hot summer months

Hunter Package Attic Fan is a complete home-cooling system . . . low in initial cost, economical to operate and designed for fast, inexpensive installation. No other small investment gives home-owners so much summer comfort.

Easy to Install: Delivered on the job as a compact unit, complete with ceiling shutter and modern metal trim, the Package Fan is quickly installed in ceiling opening. No suction-box to build; no accessories needed. Requires only 17" attic clearance, fits any standard hallway.

Performance Guaranteed: Quiet, trouble-free operation is assured by Hunter's 64 years' experience in manufacturing fans, exclusively. Available in capacities from 4750 to 9500 CFM, with air delivery ratings certified. Fan guaranteed 5 years; motor and shutter, 1 year.

New automatic ceiling shutter

MAIL FOR COMPLETE DATA

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Memphis, Tenn.

Send copy of "How to Cool for Comfort" to:

Name..

Address..

City & State..

Hunter *Package* Attic Fans

THE RECORD REPORTS

(*Continued from page 174*)

sidiary. Other officers of the new company are: Clarke Warner Abbott, R.I.B.A., vice president; Sylvia M. Pace (the firm's treasurer), treasurer; N. J. Senesey, A.I.A., chief architect; and John W. Duffy, A.R.I.B.A., M.R.I.B.A., chief draftsman. English and American architects make up the balance of the organization.

V. E. Vallet, president of Giffels & Vallet, Inc., L. Rossetti, Associated Architects and Engineers, of Detroit, has announced the formation of a Canadian subsidiary, Giffels & Vallet of Canada, Ltd., with offices at 210 Canada Trust Bldg., Windsor, Ont. The new subsidiary will be closely associated with the main office, with its organization of some 500 engineers, architects and technicians.

John Alfred Wahl, A.I.A., has joined the firm of Kelly & Gruzen, architects-engineers, as office and production manager. Mr. Wahl was formerly assistant-in-charge to Irwin Clavan, architect for the Board of Design of the Metropolitan Life Insurance Co., on the Stuyvesant Town, Peter Cooper and Riverton Housing Projects, and was recently with W. Stuart Thompson and Phelps Barnum, architects.

New Addresses

The following new addresses have been announced:

Akron Art Institute, 69 E. Market St., Akron, Ohio.

G. A. Downs, Architect, 101 Post St., San Francisco 8, Calif.

Arne G. Engberg, A.I.A., 3810 Fannin St., Houston, Tex.

Gross-Morton Co., bldrs. and developers, 255-55 Union Turnpike, Glen Oaks, Queens, N. Y.

Alexander & Rothschild, Designers and Architect Associates, 316 Peachtree St., Atlanta 3, Ga.

Thomas F. Walston, Architect, Room 306, Professional Arts Building, Ashland, Ky.

ERRATUM

An incorrect credit line appeared under the rendering of the Cafritz Building, Washington, D. C., which was shown on page 12 of the December issue of the Record. The rendering should have been credited to the architect, LeRoy L. Werner, A.I.A.

(*News continued on page 178*)

QUIET
PLEASE

Why Rotary Oildraulic Elevators were selected for new Doctors' Hospital at Coral Gables

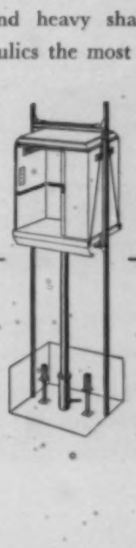
Architects: Stewart & Skinner
Contractors: Fred Howland, Inc.
Elevators installed by: Miami Elevator Co.

▪ Quietness was an important consideration in the design of the new Doctors' Hospital in Coral Gables. Rotary Oildraulic Elevators were selected because the Rota-Flow hydraulic power unit eliminates the noise and vibration of ordinary hydraulic elevator pumps. The elevator car rises and descends on a pulsation-free column of oil which is "locked" whenever the car is stopped.

Smooth starting, smooth stopping and precise, automatic floor leveling are other essentials. Patients must be moved without jolt or shock. By means of a balanced-pressure hydraulic control system (Rota-Relief), Oildraulic Elevators operate with velvet smoothness. And Rotary guarantees automatic landings within 1/4" of floor level, regardless of load size or rate of speed.

Low installation and operating costs, flexibility of design made possible by eliminating penthouse and heavy shaftway structures, and long life make Rotary Oildraulics the most practical of all elevators.

If a 2, 3 or 4-story building is among your projects for 1950, see our section in Sweet's File or write for Rotary catalog and list of recent installations.



Rotary **Oildraulic Elevators**

PASSENGER AND FREIGHT

Rotary Lift Company, 1102 Kentucky, Memphis 2, Tennessee

CANADA

(Continued from page 178)

Planning Spotlighted

With the National Capitol Planning Committee currently taking plaudits for its touring presentation of the master plan for Ottawa (see p. 178), and new reports from Toronto and Edmonton on the status of planning for those cities, development planning seems to be very much on center stage in Canada.

Hon. Robert H. Winters, Minister of Reconstruction, recently underlined one practical reason when he told the Maritime Conference of the Community Planning Association of Canada that he doubted whether federal or provincial governments should make financial contributions for housing in any area where a process of appraisal and planning has not taken place.

Encouraged by official approval of the Toronto Planning Board's proposals for the city's next 30 years of growth, the Toronto and York County Planning Board has submitted a report dealing with the metropolitan area as a whole. This report advocates outright amalgamation of Toronto and seven suburban municipalities as a metropolis of 900,000 as well as unified planning and spending for highway, water sewerage and other public services in the area.

A report from Professors John Bland and Harold Spence-Sales of McGill University on planning for Edmonton draws attention to a problem which is not confined to Edmonton — the difficulty of defining the useful areas of activity in planning of permanent municipal servants and the citizens' groups making up community planning commissions. The report recommends an advisory *District* Planning Board staffed with provincial and municipal members and a City Planning and Development Board of city officials responsible for planning.

Model photo: Manufacturers Life Insurance Head Office, Toronto, showing addition proposed to double office space. Marani & Morris, architects. Below: present structure

Gentle on PARTITIONS ...and NERVES

RIXSON SERIES 350

Special problems of installation will receive prompt attention from the Rixson engineering and designing departments.

RIXSON

Checking Pivot Hinges Are Non-Handed—Single and Double Acting—and Priced for Popularity

Thoroughly dependable and reasonably priced, Rixson Series 350 Pivot Hinges are favored everywhere on lavatory stall doors, dwarf doors, rail gates, booth doors, etc. Can be used on right or left hand single acting or on double acting doors. Spring and hydraulic mechanism assures full checking control all the way to closed position of the door. Furnished with nearly any type of bracket, pivot or arm.

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Established 1900

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ATLANTA—Walter S. Johnson, 917 St. Charles Ave., Tel. Vernon 4725.

CANADA—The Richards-Wilcox Canadian Co., Ltd., London, Ont., Tel. Fairmont 2800.

LOS ANGELES—George E. Tupper, 1010 W. Olympic Blvd., Tel. Prospect 0924.

NEW YORK—Fred G. MacKenzie, 107 Reade St., Tel. Barclay 7-6852.

PHILADELPHIA—G. Norris Williams, 211 Greenwood Ave., Wyncote, Pa., Tel. Ogontz 1929.

PORTLAND, ORE.—W. N. Browning, 529 Henry Bldg., Tel. Atwater 5839.

SEATTLE—E. R. Spragg, 4012 East 38th St., Tel. Kenwood 7605.

WASHINGTON, D. C.—L. J. Fait, 2068 14th St. N., Arlington, Va. Tel. Chestnut 6262.

Build *any style* of fireplace around the *proved* HEATILATOR* FIREPLACE UNIT!

Assures correct execution of any design

The Heatilator Unit is a complete fireplace from hearth to flue, around which any kind of decorative masonry in any desired form can be built. It consists of:

1. *A scientifically designed firebox*
2. *A properly proportioned throat to insure proper draft*
3. *A removable damper with adjustable poker control*
4. *Extra wide down-draft shelf made of heavy steel*
5. *Complete metal smoke dome to speed passage of smoke into chimney*

By pre-building these vital parts, the Heatilator Unit insures a fireplace that draws properly and will not smoke. By eliminating the need for guesswork and rule-of-thumb methods on the part of masons, it permits unsupervised construction.

Original economy —Long-run savings!

Because the Heatilator Unit is ready to install, with no extra parts to buy or build, it saves mason time and labor. It saves on expensive firebrick. Thus, a completed Heatilator Fireplace costs little, if any, more than an ordinary fireplace. And in addition, your client can count on the dollars-and-cents savings of smokeless, trouble-free operation.

The white warm air grilles of this Colonial Fireplace blend with the woodwork.

An example of warm air outlet grille placement in a fireplace with projecting mantel.

Heatilator Fireplace Gives More Comfort, Greater Pleasure!

A Heatilator Fireplace draws in air from floor level, heats it, and circulates it to every corner of the room, and to other rooms as well. By utilizing heat that is ordinarily wasted, it makes furnace operation unnecessary on cool Spring and Fall days.

In mild climates, it is the only heating equipment needed—saving the cost of expensive heating plants that are used only a short time each year.

The Ideal Way to Heat Camps and Cabins

Heatilator Fireplaces make camps and cabins usable weeks longer in Spring and Autumn. It solves the heating problem in basement recreation rooms without unsightly pipes and radiators.

Heatilator Fireplace Units are not a new, unproved idea. Perfected over twenty-two years ago, they are in successful use in *hundreds of thousands* of American homes.

No Limit to Ingenious, Decorative Ways of Placing Outlet Grilles

The Heatilator warm-air outlet grilles are easily placed to blend with the general fireplace design . . . to provide points of decorative interest. Or, in many cases, they can be completely hidden in cupboards or bookcases. They can even be placed in an upstairs or adjoining room!

Give clients the advantages of a genuine Heatilator Fireplace. Write today for complete specifications and illustrations showing the unlimited variety of architectural styles possible with Heatilator Fireplace Units. Heatilator, Inc., 612 E. Brighton Avenue, Syracuse 5, N. Y.

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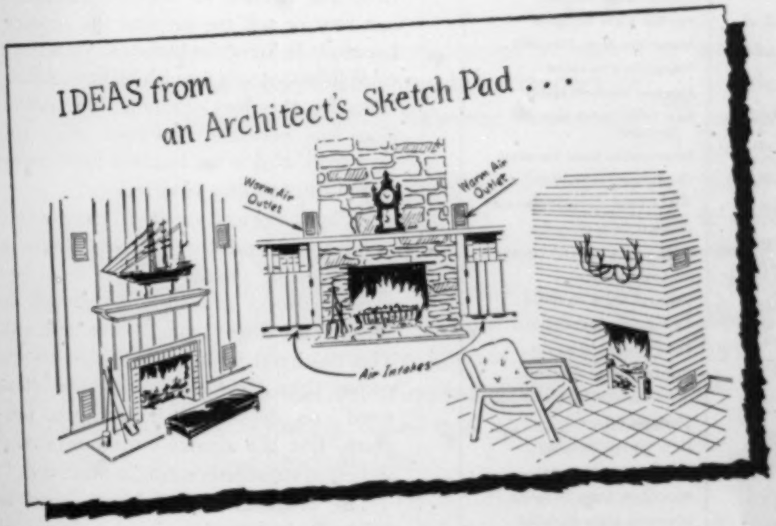
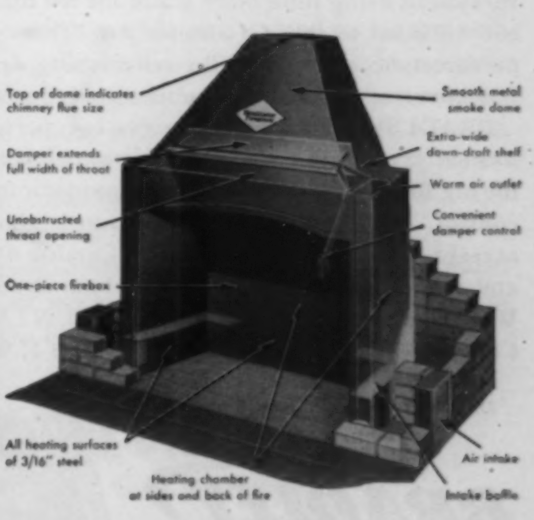
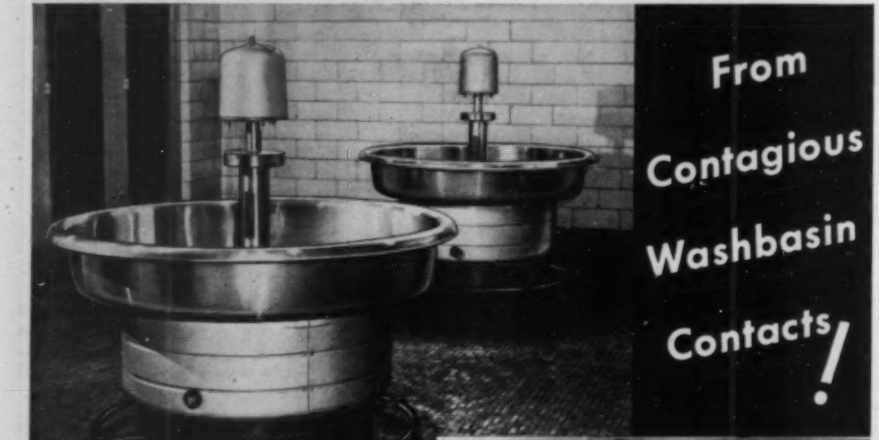

IDEAS from an Architect's Sketch Pad . . .
Warm Air Outlet
Warm Air Outlet
Air Intakes

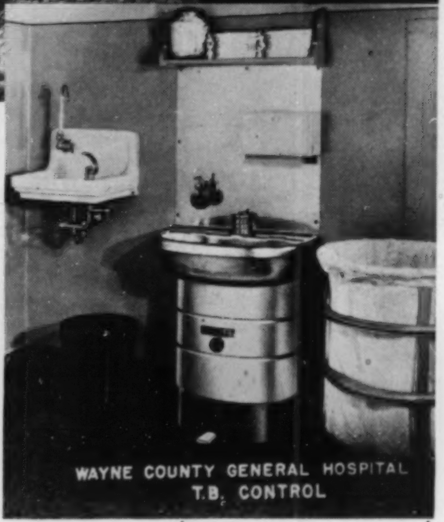

Top of dome indicates chimney flue size
Damper extends full width of throat
Unobstructed throat opening
One-piece firebox
All heating surfaces of 3/16" steel
Heating chamber at sides and back of fire
Smooth metal smoke dome
Extra-wide down-draft shelf
Warm air outlet
Convenient damper control
Air intake
Intake baffle

HEATILATOR *America's Leading* **FIREPLACE**

T.M. REG. U.S. PAT. OFF.

PROTECT HANDS




WAYNE COUNTY GENERAL HOSPITAL
T.B. CONTROL

With BRADLEY Sanitary Washfountains

When you say something is "hospital clean" it indicates the utmost in sanitation care. Just so, when you speak of "sanitary wash fixtures" *Bradley* Washfountains come to mind. For Bradleys represent the *utmost* in health protecting facilities.

ECONOMICAL—CONVENIENT

One 54-in. Bradley Washfountain serves 8 to 10 persons simultaneously. An ever-clean spray of tempered water is supplied by a single central sprayhead using little more water for *ten* than a conventional washbasin uses for *one.* There are no faucets to touch—and the self-flushing drain bowl prevents collection of contaminating water.

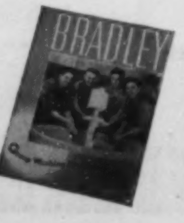
BRADLEY DUOS, built to serve two persons in smaller or more secluded washrooms, have all the big Bradley features including automatic foot-control. A DUO hospital installation is shown at right above. Send for illustrated Catalog 4701 and read all the interesting facts about Bradley Washfountains. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan St., Milwaukee 1, Wis.

Distributed Through Plumbing Wholesalers

BRADLEY Washfountains

Some Recent Hospital and Institution Installations

S. C. State Hospital
Boston State Hospital
Pontiac State Hospital
Woodville State Hospital
Mendocino Hospital
Monson State Hospital
East Tenn. Tubercular Hospital
Embreeville State Hospital
Clark Summit Hospital
Mississippi State Sanitarium
Grafton State Hospital
Hospital for Sick Children
Agnew Hospital
Sonoma State Hospital
Camarrillo Hospital
Cook County Hospital
Gardner State Hospital
Milledgeville State Hospital
Blodgett Hospital
U. S. Naval Hospital
St. Joseph's Hospital
Massillon State Hospital
Montana State Hospital
Norristown State Hospital
U. S. Veterans Administration Hospital



(*Continued from page 10*)

but often there is only one sponsor bidding for the work.

As the Wherry Bill was written, the military projects may be either on or off the military reservation. Private interests undertake the developments with mortgage money insured by the FHA. Congress last year voted a $1 billion fund for this insurance. Administered by the FHA, it is charged on the books to the military.

Sponsors bidding for the right to construct these projects on their own must submit an outline, a site plan and line drawings to form the basis for rent schedule determination. The rents to be charged must be in line with ability of the personnel to pay. Complete plans and specifications are not prepared until the final sponsor is selected.

In general, the financing plan follows the pattern of FHA operations under Sec. 608. Each of the three services must certify, on its own projects, that the location is fairly permanent and that the proposed housing is needed. This is done before FHA insurance is obtained.

There is no separate set of FHA construction standards for the Wherry Bill housing. An agency spokesman said there might have to be some modification of the existing rules and regulations in certain instances affected by land arrangements, but the present FHA standards will apply as written to the military rental construction.

If the land selected for the project is government property inside the reservation, the branch of service concerned can rent or sell the area to the sponsor selected. In most instances the military establishment will furnish utility connections for the development. This provision was necessary because often the post is located in an isolated area, away from ordinary city connections.

It is important to the prospective builder and architect that decisions in the program made at local level are almost always upheld and carried on through for the individual development. The National Military Establishment, rather than FHA, is having the "last word" on details in the complex program. But the agency's minimum construction standards must be observed.

The program will pick up speed in 1950. It is hoped a large volume of rental construction can be contributed to alleviate deplorable housing conditions at many installations.

Guild House
SHOES & ACCESSORIES
SHOES

You can achieve all the unique distinction of custom-styling—all the clean-lined simplicity of modern design—by creatively adapting Kawneer Stock Metals to your individual style.

A perfect example is this outstanding women's shop in Long Beach, California.

To increase customer traffic, Kenneth S. Wing, A.I.A., decided to create an inviting open-air atmosphere which would eliminate the usual building line barrier and put the attractive interior on display.

To achieve this effect Mr. Wing specified Kawneer Patented Flush Glazing Sash, one of the many modern Kawneer Stock Metals.

The face of this sash is flush with surrounding wall and ceiling surfaces, because all projecting members are eliminated. To the eye, the surfaces on both sides of the glass appear to be a single smooth plane, continuous and uninterrupted by glazing sash.

By using such Kawneer Stock Metals you can meet your clients' demands for lower building costs—and you can reduce your own operating costs. Kawneer Stock Metals are far less costly than special, made-to-order assemblies—and they eliminate time-consuming drafting and detailing in your own office.

For information, consult your Portfolio of Kawneer Details or write 201 N. Front St., Niles, Mich.; or 2561 8th St., Berkeley, Cal.

THE
Kawneer
COMPANY

ARCHITECTURAL METAL PRODUCTS

Store Front Metals • Modern Entrances
Facing Materials • Aluminum Louvered Ceilings
Aluminum Roll-Type Awnings

ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

PRODUCTS

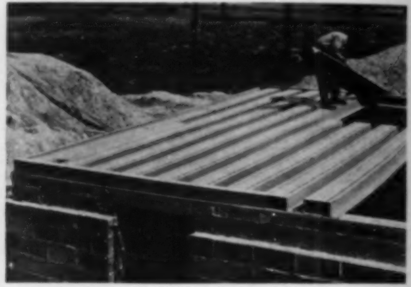
(*Continued from page 139*)

normal atmospheric temperatures with little or no refrigeration required. The apparatus is enclosed in a casing through which air is drawn by fans. Air is filtered, then dehumidified by passing through a spray of Hygrol. The air stream next passes cooling coils and moisture eliminators, and is diffused in the space to be conditioned.

The absorbent liquid spray falls into a tank at the base, is piped to a concentrator to remove moisture taken from the air, and returned to the system. The equipment is manufactured in a wide range of sizes. Niagara Blower Co., 405 Lexington Ave., New York 17, N. Y.

Fire-Resistant Fabric

A fire-resistant drapery fabric, woven of *Fiberglas* and wool yarns, has been developed by the textile division of Knoll Associates from a hand loomed design by Marianne Strengell. The material is said to meet rigid fire-safety requirements for use in places of public assembly, and to drape well. Sunlight, gases in the atmosphere and mildew are reported not to affect the fabric, nor do changes in temperature and humidity. It is available in four two-tone tweed effects: green, blue, red or black in combination with natural, and in natural. Owens-Corning Fiberglas Corp., 16 E. 56th St., New York 22, N. Y.



Structural floor serves as heat ducts

Heating With Cellular Floors

Fenestra steel cellular panels were installed in the Ideal Home of the 1950 Detroit Builders' Show as both subflooring and heating ducts. Panels were laid from beam to beam, eliminating joists, and joined by an interlocking feature. Use of these units is said to permit faster, easier construction of subflooring.

Panel cells serve as ducts for hot air distribution and cold air return. Heat is radiated through the floor, and flows out of baseboard registers. With such construction, the basement ceiling is flush and requires no finishing. Cutting of panels around openings is reported a simple operation on the job. Pipes and wire can be enclosed in the panel cells. Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich.

Kitchen and Bath Fixtures

The Murray Corp. of America, producers of automobile bodies and assemblies, will soon be in full production of home appliances at their new Scranton plant.

The line of *Murray* kitchen appliances

(*Continued on page 188*)

for roof or floor

fills

lightweight... insulating

Use concrete made with Waylite aggregate for roof or floor fills. Reduces deadweight. Has high thermal insulation and sound-deadening values. Incombustible. Easily placed, especially around pipes and conduits.

Waylite is a lightweight air-cell aggregate made by processing molten blast furnace slag. It is a uniform material that comes properly graded. Recommendations for its use are supported by a wealth of technical data and by widespread, successful use on various types of structures. Approved by Board of Standards and Appeals, New York City.

In addition to fills, Waylite aggregate makes lightweight structural concrete that saves as much as 35% deadweight and can be designed up to 4000 psi. See Sweet's for engineering data. For further information and quotations, address the Waylite Co., 105 W. Madison St., Chicago 2, or Box 30, Bethlehem, Pa.

for lightweight concrete

WAYLITE AGGREGATE

CRANE

the preferred hospital plumbing

Crane Duraclay Wash Sink. Available in all styles and sizes . . . foot, knee, wrist, or elbow operation.

Running water, open drain make sanitation complete.

Users prefer individual sinks—no congestion.

Crane Duraclay immune to thermal shock.

For *anything* in hospital plumbing, consult your Crane Branch or Crane Wholesaler.

CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5

PLUMBING AND HEATING
VALVES • FITTINGS • PIPE

PRODUCTS

(*Continued from page 186*)

and bathroom fixtures is announced for the moderate price field. The kitchen line comprises gas and electric ranges, a series of sink and cabinet combinations, floor and wall cabinets and flat-rim sinks. The equipment is of welded construction throughout and is available with a wide range of fittings and features.

Bathroom fixtures include corner and recess bathtubs and open base or cabinet base lavatories. Bathtubs are said to be lightweight, and of an acid-resisting porcelain. Fixtures are made in white, blue, green, sandstone and ivory colors. Murray Corp. of America, Home Appliance Div., Scranton, Pa.

Room-Size Rugs

Based on a survey of average room sizes throughout the U. S., a new line of broadloom rugs, called *Floor-Plan Rugs*, is available in 20 sizes, ranging from 27 by 54 in. to 12 by 21 ft. The plan is said to allow cheaper cost and quicker delivery than special tailored carpeting. The line is made in 12 solid colors in a nubby twist weave, 16 patterns of multicolor designs, and 12 patterns of tone-on-tone textures. Alexander Smith & Sons Carpet Co., 295 Fifth Ave., New York, N. Y.

Wiring duct holds fixtures at any point

Flexible Display Lighting

A standardized and prefabricated wiring system has been designed, adapting the *Bulldog Trol-E-Duct* for store and display illumination where frequent changes in lighting layout are needed. The duct is said to be easily and quickly installed, and allows flood or spot lights to be snapped on at any point in the duct without any new electrical work. Lighting units may be beamed in any direction required, and rearranged at will. Several models are available, in four standard colors or brushed aluminum. Fixtures may be ordered as required. General Lighting Co., 1527 Charlotte St., New York 60, N. Y.

New Wood Product

A new hard board sheet, developed to utilize wood wastes, is made by compressing a blend of wood shavings, chips, and ground wood, all bonded by a Plaskon urea formaldehyde resin.

Wonderboard is reported to have a distinctive warm appearance, being comprised of any combination of wood particles. Reputed qualities include: lightness; non-warping; resistance to fungus, dry rot, termites and fire; strength adequate for a structural material; water re-

(*Continued on page 190*)

NO VISIBLE WEAR

AFTER *30* YEARS OF CONSTANT USE!

Stairs get a lot of punishment in 30 years under the thousands of busy feet which go up and down them—year in, year out. Yet this unretouched photograph (just taken) of the "Feralun" stair treads, installed 30 years ago in the plant of the Dennison Manufacturing Co. at Framingham, Massachusetts, shows no evidence of more than a quarter-century's "foot traffic." 30 years of resistance to wear! 30 years of non-slip underfoot safety! Good for many years to come!

Examples like this show why architects, engineers and builders insist on "Feralun"* treads, nosings and plates. Made of cast iron with wear-resistant abrasive particles embedded in walking surfaces, "Feralun" provides a sure-footed "grip" that keeps feet from slipping—and wears and wears. The coupon below will bring you full information on "Feralun." Send it today.

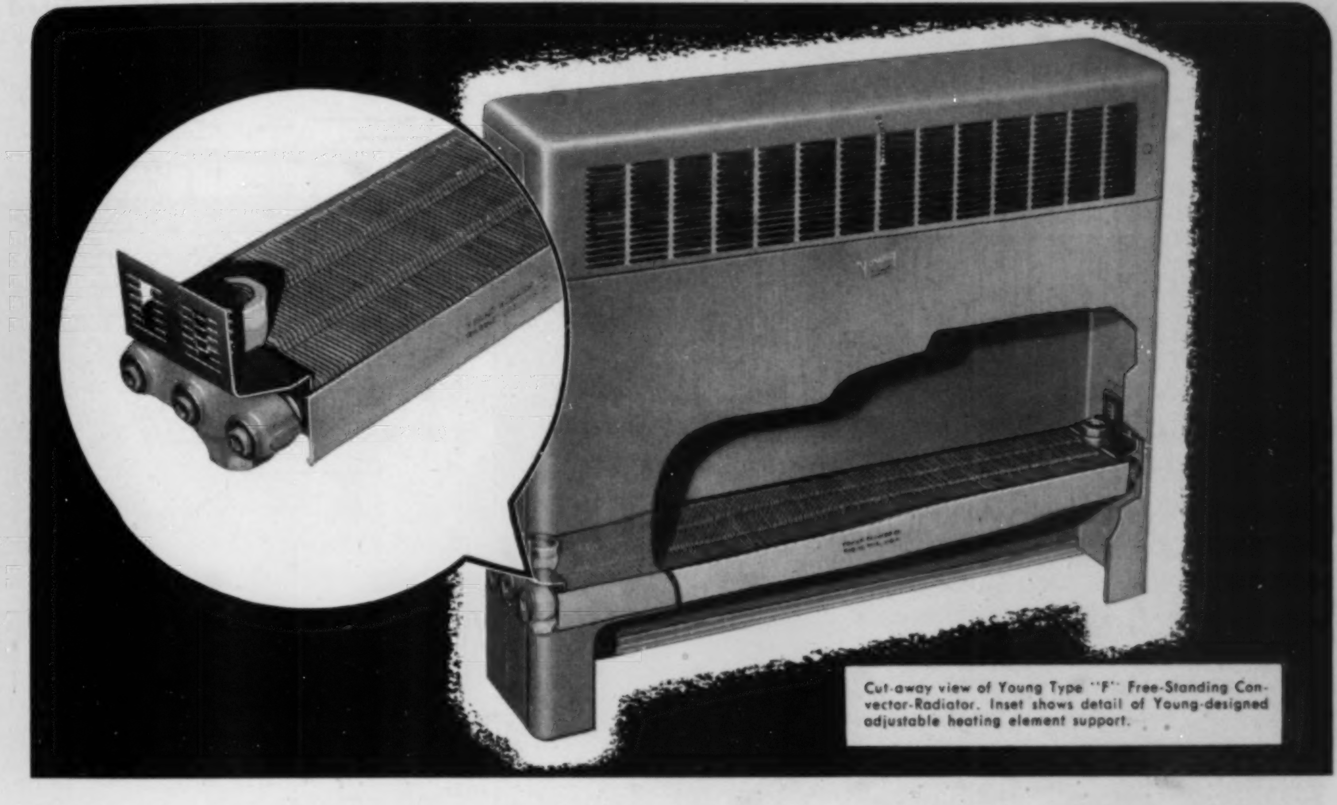
**Also available in Bronze*—(Bronzalun), *Aluminum*—(Alumalun), *and Nickel Bronze*—(Nicalun). ®

AMERICAN ABRASIVE METALS CO.
IRVINGTON 11, N. J.

AMERICAN ABRASIVE
METALS CO.
470 COIT STREET
IRVINGTON 11, N. J.

(AR 2-50)
Gentlemen: Please send me full information on Feralun.
NAME .... TITLE ....
COMPANY ....
ADDRESS ....
CITY .... STATE ....

Save on Installation Costs with
YOUNG CONVECTOR-RADIATORS



Cut-away view of Young Type "F" Free-Standing Convector-Radiator. Inset shows detail of Young-designed adjustable heating element support.

Once again Young Engineering saves you money. A new heating element support cuts installation time and permits quick pitching adjustments. Its rigidity permits shipping core in position ... another time saver. An additional Young innovation, unit packaging, also speeds handling on the job. Each sturdy carton is clearly marked for quick identification and protects units in handling. The Young Convector-Radiator Line includes a style and size for any hot water and two-pipe steam system. Mail the coupon below for further helpful information.

YOUNG

Heat Transfer Products for Automotive and Industrial Applications.

Young Quality
T. M. Reg. U.S. Pat. Off.

Heating, Cooling, and Air Conditioning Products for Home and Industry.

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Address____________________

City__________ Zone_____ State__________

ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

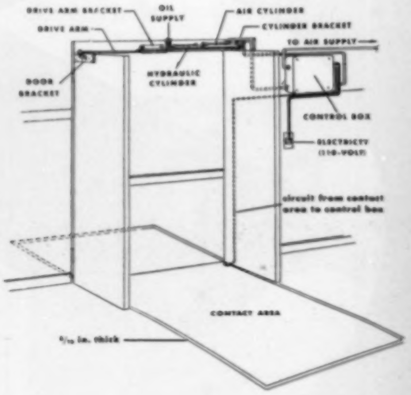
PRODUCTS

(*Continued from page 188*)

sistance; insulation for both sound and temperatures; and adaptability for veneering. Standard sizes of the new board will be 48 by 96 in. and ¼ to 1⅝ in. thick. Wonderwood Corp., Corona, Del Mar, Calif.

TV Antenna System

A multiple-outlet TV antenna system, called *Antenaplex* has been designed to meet the problems of apartment houses, hotels, office buildings, etc. The system consists of a roof-top antenna for each channel to be received; a master signal amplifier to boost the strength of signals received; and a co-axial cable carrying all signals to outlets throughout the building. Each system is specially engineered for a building, with antennas individually tuned to a particular channel. Receivers are electrically isolated from others in the system. These features are said to insure maximum signal strength and eliminate ghost images caused by signal reflections from other buildings. RCA Victor Div., Radio Corp. of America, Camden, N. J.



Door control uses no motors or gears

Automatic Door Opener

With the *Astra Automatic Door Control*, opening of door is electrically actuated by walking on a $\frac{3}{16}$-in. floor plate either side of door. The plate has low-angle rising edges for safe, smooth approach. No guide railing is necessary. Opening and closing of doors is air operated and hydraulically controlled, requires no motor or gears. Air power may be supplied by the building's regular air pressure system or by a small compressor. In case of a power failure, doors may be manually operated.

Designed especially for public and industrial buildings, the doors are said to be economical, easy to maintain, and can be installed without remodeling doors, walls or floors. Astra Engineering Co., 933 S. Fair Oaks, Pasadena, Calif.

Multi-Outlet Strip

The *Plug-In-Strip* provides electrical outlets at either 6 or 18 in. intervals. In addition to the conventional two slots in each receptacle, there is an adjacent third slot with a copper insert mounted to the steel base for grounding to the earth. This construction allows the use of either a standard plug or the series 5200 3-blade grounding plug.

The strip is of 24-gage steel channel,

(*Continued on page 192*)

TERRAZZO in action

Always at the "foot" of the class

Terrazzo

graduates with flying colors

Educated in the school of hard knocks, TERRAZZO takes the punishing wear of class-bound students without complaint. It repays architects' foresight with remarkably long life and low upkeep. Its smooth, jointless surface cleans easily. It is easy to walk on—less slippery than any waxed surface.

TERRAZZO is available in almost any design or combination of colors. You can use it for floors, walls, baseboards, wainscots and stairways. First cost is low, repairs and replacements are minimized, cost of cleaning is cut. Specify TERRAZZO and end floor problems once and for all time!

Write for free AIA Kit, the complete reference work about TERRAZZO

SEE OUR CATALOG IN SWEET'S

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

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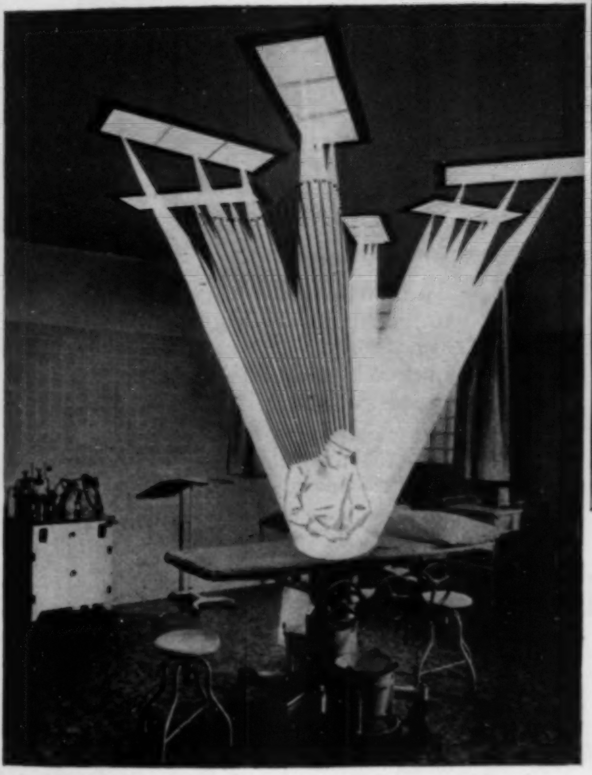
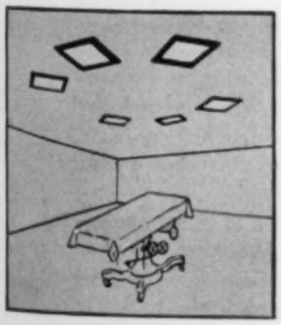
The NEW

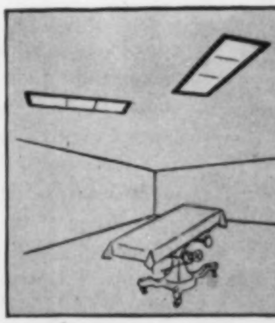
HOLOPHANE SURGERY LIGHTING SYSTEM Provides Most Effective, Economical, Dependable Illumination



Wide distribution of light sources insures rays that approach the wound area from many different directions, free from normal interception by personnel about the table.



Sketch showing Holophane Emergency or Minor Surgery System



Sketch showing Holophane Delivery Room System

*REG. U. S. PAT. OFF.

Major Surgery, Chestnut Hill Hospital, Philadelphia, Penna.

Eighteen Beams Concentrate Glareless, Shadowless, Comfortable Light on the Operating Area . . .

The Holophane Major Surgery Lighting System consists of 6 triple CONTROLENS* units with eighteen light beams which converge to provide (1) a high intensity spot on the operating area (2) a wider area of gradually diminishing light over the entire table (3) correct degree of balanced general illumination throughout the surgery . . . The light on the operating table is without glare, interfering shadows or objectionable heat . . . Location of the lighting system remote from the anaesthetization zone eliminates hazards of explosion; multiple lamping minimizes danger of interruption from lamp burnouts . . . The system is economical to maintain, easy to keep clean. Built-in ceiling arrangement gives the entire room a neater, more modern appearance.

Write for Latest Holophane Book . . . "Guide to Hospital Lighting" . . . Available without charge.

GUIDE
TO
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THE HOLOPHANE COMPANY, LTD., THE QUEENSWAY, TORONTO 14, ONTARIO

PRODUCTS

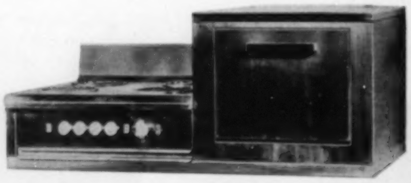
(*Continued from page 190*)

and comes in 6-ft standard lengths with satin grey finish. It may be painted to match counter, machine or baseboard. National Electrical Products Corp., Chamber of Commerce Bldg., Pittsburgh 19, Pa.

All-Weather Window

Solar Air-Flo Window units combine fixed glazed areas with louvered sections for ventilation at top, bottom or sides. The complete unit comes assembled and ready to install with all exterior trim furnished by the manufacturer.

The ventilator section includes built-in screens, removable from the inside. A door serves to control and direct the flow of fresh air. The unit is weather stripped and insulated, and is said to be repellent to cold, rain and snow. Window areas are single, double or triple plate glass as desired, with narrow mullions and trim. Frames are of treated wood or extruded aluminum. A variety of stock sizes is available. Solar Air-Flo, Inc., Elkhart, Ind.



Baseless range permits custom-planned working height and storage arrangement

Kitchen Range

The *Akron* electric range with the cooking units at the side of the oven is designed to fit in with varying architectural needs. It is designed to be mounted on a cabinet of architect's or designer's choice. The range, model no. 436–56, is adaptable where built-in features or saving of kitchen space is desired, according to the manufacturers.

Available in stainless or regular steel the range comes complete with seven switches, pilot light on burners, appliance receptacle and automatic time and temperature controls. The base is 57¼ by 30 in.; the cook top 10¾ in. high, and the oven top 22¼ in. high. Associated Products, Inc., 20 S. Ontario St., Toledo, Ohio.

Built-Up Aluminum Roofing

Rey Kool roofing is constructed of a 17½-in.-wide sheet of stipple-embossed aluminum, factory laminated to one side of a 36-in. width, 15-lb, asphalt roofing felt. Laid according to conventional practice, succeeding courses are lapped over exposed felt and ½ in. of the aluminum. This provides a double layer of protected felt.

Features of the use of aluminum include insulation qualities and fire resistance. Factory lamination of the aluminum and felt is said to provide a better weather seal and save time and labor on the job. The roofing comes in 40-lb rolls containing 72 lineal ft. Reynolds Metals Co., Building Products Div., 2000 S. Ninth St., Louisville, Ky.

(*Continued on page 194*)

ARCHITECTS: COOLIDGE, SHEPLEY, BULLFINCH AND ABBOTT

use Van's long experience on hospital food service

- The picture above of the main kitchen of the new sixteen-story Hartford Hospital well illustrates the work Van has done equipping hospitals large and small for food service for more than a century.
- When you see an unusually fine food service installation, you will undoubtedly find Van's name plate on the equipment.
- If you are planning food service equipment improvements, make use of Van's skill and experience. Illustrations of such installations are in Van's Book, available now.

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EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD
DIVISION OF THE EDWARDS MANUFACTURING CO.
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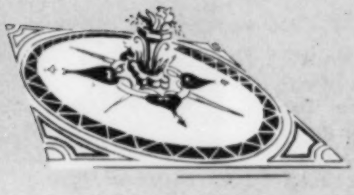
429 CULVERT STREET **CINCINNATI 2, OHIO**

Possibilities Unlimited

Of all building materials, only Medusa White Portland Cement lends itself to unlimited possibilities in modern design and color. The plasticity and extremely white color of this cement open up an endless choice of shapes, finishes, and colors. In practically every civilized country, Medusa White is creating large stucco buildings of distinction, as well as charming white or tinted stucco homes. You'll also find this original white cement in the colorful matrix of beautiful terrazzo floors . . . not only in buildings but in home vestibules and recreation rooms. In addition, this white cement is creating cast stone for building trim, sculpture work, white concrete, and concrete slabs. Medusa White, with waterproofing ground in at the mill, becomes Medusa Waterproofed White Portland Cement and repels water at the surface of the construction. We have prepared two booklets. "A Guide to Finer Stucco" and "Medusa White Portland Cement," to show you how to build better with this modern building material. Write for them. MEDUSA PORTLAND CEMENT CO., 1015-1 Midland Building, Cleveland 15, Ohio.

STUCCO



TERRAZZO

SCULPTURE

JUNIOR HIGH SCHOOL

CAST STONE TRIM

MEDUSA WHITE
PORTLAND CEMENT
NON-STAINING
MEDUSA PORTLAND CEMENT CO.
CLEVELAND, OHIO
94 LBS.
NET
NON-STAINING
PORTLAND CEMENT
MEDUSA WHITE

You can build BETTER with

MEDUSA PRODUCTS

REG. U. S. PAT. OFF.

PRODUCTS

(Continued from page 192)

Shatter-Resistant Mirror

A new washroom mirror has been developed for use in public buildings. The shatter-resistant glass used is said to withstand a shock four to five times greater than ordinary plate glass and, when broken, to disintegrate into harmless granules.

The mirror, *Type-5000-H*, is silvered by a special process, reportedly giving one of the most durable finishes. It is furnished in any desired size with either a rounded or flat chrome-plated frame and invisible theft-proof hanger. Conroy-Prugh Glass Co., 1430 Western Ave., Pittsburgh 12, Pa.

Low Cost Door Check

The *Dynamatic* door closer is claimed to be more compact and cost less than other well known types. Designed to control interior doors weighing from 15 to 175 lb, the unit, according to the manufacturer, will never need any maintenance, spring adjustment, ratchet wrench, or any oil or grease application. According to the manufacturer, it is permanently set by one finger tip adjustment, is sealed against dirt and moisture, guarded against rust, and never affected by pressure, friction or temperature changes. New England Manufacturing and Supply Co., 42 Church St., New Haven, Conn.

Classroom uses new seating units arranged on an arc for good visibility

Lecture Room Seating

Designed to save space and increase seating capacity in lecture rooms, *Universal* tables and swivel chairs have simple and sturdy construction. Tables may be installed in straight rows or on an arc, with ends mitered. Tops are heavy, cored plywood, bonded with hot-press, urea-resin adhesive, and have tongue-and-groove hardwood framing. They are said to offer great resistance to warping, checking, splitting, moisture and temperature change. Pedestals are steel with an offset flange mounting of cast iron providing ample leg and knee room. The pedestal fastens to the top with screws through flange arms extending the width of the table. Finished in lacquer, the tables are 29 in. high, 16 to 24 in. wide; lengths are available as desired, usually in two-pupil sections.

The swivel chairs are designed to permit a wide alley of access. Both tables and chairs have circular base plates for attachment to the floor. American Seating Co., Grand Rapids 2, Mich.

(*Continued on page 196*)

BARBER-COLMAN
Products for Up-to-date Homes

The BARCOL OVERdoor

"An improved overhead door" offering distinctive features of engineering and construction that insure durability and provide good operation. Barcol OVERdoors are weathertight, yet easy-working. Thousands of homes all over the country can demonstrate thoroughly satisfying installations in all sizes and in special as well as standard designs.

RADIO CONTROL FOR GARAGE DOORS

Here is a really modern home utility that is rapidly gaining in popularity. The driver simply *pushes a button inside the car,* and automatically the garage doors open or close! A great convenience day or night and, in stormy weather, a valuable protection. Barber-Colman Company has pioneered in the development and manufacture of successful radio control equipment since 1928.

SEE BARBER-COLMAN PRODUCTS AT THE NAHB EXPOSITION

Chicago, the Stevens Hotel, February 19 to 23rd, at the Annual Convention and Exposition of the National Association of Home Builders — see the favorite Model 50 Barcol OVERdoor set up for hand operation, and the new Model 31 Barcol OVERdoor equipped with the newest Barcol Electic Door Operator *and Radio Control. See why these quality products are worth considering for every new or remodeled up-to-date home.*

FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES in PRINCIPAL CITIES

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BARBER-COLMAN COMPANY
102 MILL ST. • ROCKFORD, ILLINOIS

for the people

FOR *the people* is this handsome Memorial Auditorium with its attractive terrazzo floors and stairs. *For the people* also is the permanent, non-slip protection given these floors and stairs by the use of ALUNDUM terrazzo aggregate.

ALUNDUM terrazzo aggregate will give any terrazzo floor or stairway two added advantages: positive, permanent, non-slip protection even when wet, and greatly increased wear resistance.

For the people are the non-resonant and comfortable walking qualities of ALUNDUM terrazzo floors. Available in a wide variety of colors, ALUNDUM terrazzo aggregate combines attractiveness with its non-slip protection and wear resistance.

For lobbies, foyers and entrances, and for ramps and precast stair treads, you can combine common-sense with good taste and add safety to attractiveness by using ALUNDUM terrazzo aggregate.

See our catalog in Sweet's (SA and SE) or write for our free catalog, number 1935.

Other Norton non-slip floor products are Alundum aggregate for cement floors, Alundum stair and floor tile, and Alundum ceramic mosaic tile. All of these serve the public by making your floors, ramps or stairs permanently non-slip.

NORTON

NON-SLIP FLOORS

NORTON COMPANY
Worcester 6, Massachusetts

It's the Hi-Density Lead that makes

MICROTOMIC

"VAN DYKE"

your one best bet for tracings that "Come Clean" in reproduction!

EBERHARD FABER U.S.A.
VAN DYKE
4H

Top that off with true UNIFORMITY OF GRADING and you have every reason for preferring MICROTOMICS, 18 degrees, from 9H to 7B.

TRADE MARKS REG. U. S. PAT. OFF.

The EBERHARD FABER

Drawing Pencil

AT BLUEPRINT & ENGINEERING SUPPLY HOUSES

PRODUCTS

(*Continued from page 194*)

Plastic Asbestos Flooring

Terraflex floor tiles, 9 in. square by 1/8 in. thick, are available in 12 marbleized colors. Reportedly, they do not fade or change with use, and are unaffected by grease, oil, alkaline moisture and mild acid solutions. The tiles are applicable over any type of base, and are said to be flexible enough to conform to unevenness in floor or normal building movement. The marbleizing goes all the way through the tiles for long wear. Johns-Manville, 22 E. 40th St., New York 16, N. Y.

Flexible wall lamp adjusts for height

Lighting Fixtures

Four new lamps designed by Greta von Nessen feature extreme flexibility. Swivels and extensions allow adjustment for both angle and height. The group includes two floor lamps, a wall lamp and a table lamp. All are simply designed. Satin chrome is used for arms and bases; natural cherrywood or rosewood for bases; frameless plasticized fabric, glass fiber and spun aluminum for shades and reflectors. Nessen Studio Inc., 40 E. 21 St., New York, N. Y.

Wall and Ceiling Panels

Marlite plastic-finished wall and ceiling panels now include 10 new wood

(*Continued on page 198*)

WING Revolving HEATER

Only Revolving Discharge Can Provide Thorough Heat Circulation in Industrial Plants

WING Revolving Unit Heaters give more uniform heat distribution in any building. But it is recognized that many standard industrial building designs present serious heating difficulties because of height, peculiarities in shape, exposure, or bulky equipment installations. Buildings of this type cannot be heated satisfactorily by stationary discharge unit heaters which focus streams of heat at one or more fixed points. The limited coverage provided by such heaters makes necessary a larger number of units — resulting in too great a concentration of heat, and prohibitively high original cost.

Wing Revolving Discharge Outlets

Turn Slowly Through a Complete Circle

WING *Revolving* Heaters are specifically designed to overcome the limitations of stationary discharge unit heaters, and assure the thorough distribution of warmth required for proper, healthful plant heating. The discharge outlets of the Wing Revolving Heater move slowly through a complete circle, covering successively every direction with gentle, invigorating warmth. Because the heated air is constantly circulating in different directions, all working areas are thoroughly covered, even to the most remote corners. Uniform, comfortable, healthful temperatures over the entire plant area are assured. Investigate Wing Revolving Heaters for your next design by writing today for your copy of Wing Bulletin HR-5.

L. J. Wing Mfg. Co.

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Manufacturing Licensee for Wing Unit Heaters in Western Europe
WANSON
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Wing

Revolving UNIT HEATERS

New Prudential building uses
FIBERDUCT
UNDERFLOOR
RACEWAYS
for a really modern wiring system
PRUDENTIAL

Highly dramatic, carefully planned, the Prudential Insurance Company's new Western home office now brings another example of modern workability to the Southern California scene. Realizing the need for a modern, flexible wiring system that matched the workability of the building itself—Wurdeman & Becket, architects, specified a G-E Fiberduct raceway system. This triple-duct system utilizes approximately 80,000 feet of G-E Fiberduct raceways, and supplies three completely separate channels for telephone, signal, and electrical distribution. It provides for immediate wiring changes as personnel are moved, partitions shifted, and business machines and phones are added.

Tomorrow's electrical demands won't find the new Prudential building wanting. Its system of General Electric Fiberduct underfloor raceways will provide complete electrical flexibility in the years to come. When new outlets are needed, when distribution changes are necessary, this underfloor system can provide these facilities at any time.

General Electric Fiberduct raceways give building management complete freedom of floor arrangement, because they permit the installations of outlets at any point along the duct line—at any time during the life of the building. These nonmetallic raceways provide ample capacity for future electrical requirements. In monolithic or slab and fill type of construction they provide an over-all raceway pattern that makes circuits available throughout the floor area.

To provide a new outlet it is only necessary to make a small opening in the floor over the raceway, pull the wires through, and install the outlet. New distribution can be added simply by pulling wires through the ducts. It's as quick and easy as that—the job is done at low cost with no interruption of the building's facilities.

Get complete details on G-E Fiberduct

We've prepared a new 80-page book that gives the complete G-E Fiberduct story. It's packed with the facts you'll want to know—wiring diagrams, installation details, descriptions, and other valuable information. To get your free copy fill in and mail the coupon below.

Section C24-25
Construction Materials Department
General Electric Company
Bridgeport 2, Connecticut

Please send me a free copy of the 80-page book "Fiberduct Data Manual."

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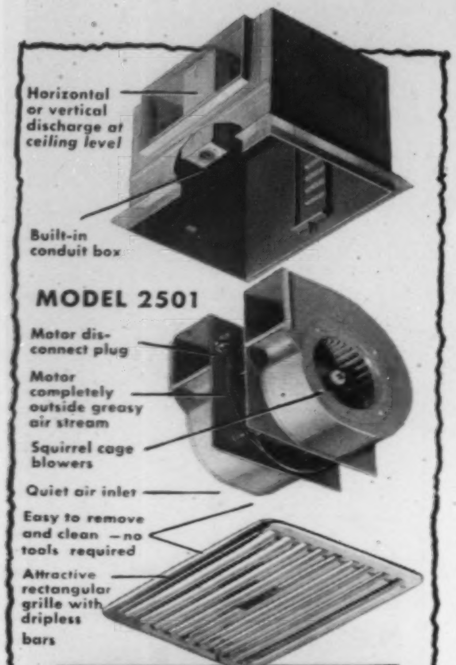
GENERAL ELECTRIC


Horizontal or vertical discharge at ceiling level
Built-in conduit box
MODEL 2501
Motor disconnect plug
Motor completely outside greasy air stream
Squirrel cage blowers
Quiet air inlet
Easy to remove and clean — no tools required
Attractive rectangular grille with dripless bars

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CLIPPER
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ADVANTAGES

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Squirrel cage blowers, accepted and used in air conditioning systems and for forced air heating, are used exclusively in the Trade-Wind Clipper. This forced air discharge, located at the ceiling, traps all unwanted air and expels it instantly. Trade-Wind also has located the motor completely outside the greasy air stream. The motor stays clean indefinitely—requires far less service—and is guaranteed for 5 years. No other small room ventilator combines all these outstanding advantages. In addition, Trade-Wind Clippers are easy to install—they are competitively priced*—and they make every new owner another salesman for the Trade-Wind line.

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PRODUCTS

(*Continued from page 196*)

and marble patterns. Five of the patterns reproduce the grain and finish of wood: quartered Prima Vera (harewood gray or natural), walnut, oak, and striped mahogany. Panel sizes are 48 by 72 in. or 48 by 96 in.

Panels of the marble patterns are 32 by 48 in. and 96 by 48 in. The panels are said to be dirt, grease and moisture proof, and may be applied over any wall surfaces in new or old construction. Marsh Wall Products, Inc., Dover, Ohio.

Combination Window Unit

Insulex Unit Fenestration combines light-directional glass block and a conventional double-hung window in a single prefabricated unit. The glass block is said to diffuse and reflect light over the room and to reduce glare, contrast and the need for shading devices. Two types of prismatic block are available, each reputed to have the same thermal insulating value as 8 in. of brick — No. 351 for ordinary conditions and a special design for severe sun exposures. The lower clear glass portion can be raised for ventilation.

The unit is available in sizes to 4 ft 8 in. by 10 ft 2 in. max., and can be installed like ordinary double-hung windows in single, multiple or continuous units in new construction or to replace worn-out sash. American Structural Products Co., Toledo 1, Ohio.

Aluminum Siding

New features incorporated in the design of *Kaiser Aluminum* clapboard siding include: wide flat at top edge for more contact at joint; upper half flattened for greater wall contact; lower section curve increased to prevent buckling; joint housing deepened for easier fitting; and nailing slots moved closer to lower edge for easier installation.

The siding is said to have a weather tight tension seal, long life, freedom from rust and reflective insulating qualities. Courses are 7⅞ in. with a weather exposure of 6⅞ in. Made in both .030 and .025 gages, it is available in 10-, 12-, 14- and 16-ft lengths. Kaiser Aluminum & Chemical Sales, Inc., 1924 Broadway, Oakland, Cal.

(*Continued on page 200*)

Naval Medical Center, Bethesda, Md. Minwax Weathercap used to protect masonry joints.

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TRADE MINWAX MARK

A COMPLETE
WATERPROOFING
SERVICE

TUF·FLEX DOORS

Architect: Horace M. Coy, Toledo, Ohio

accent the invitation of a VISUAL FRONT

Visual Front design is based on the principle that when people can see in—more come in.

What better place to remove barriers to visibility than in entrance doors? That's just what *Tuf-flex** doors are for. They're clear plate glass, ¾″ thick, tempered to withstand impact and general rough treatment. They give you an opportunity to design for smart appearance—and for practicality.

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